JANUARY 1990

COMMERCIAL CARRIER JOURNAL

CCJ

FOR PROFESSIONAL FLEET MANAGERS

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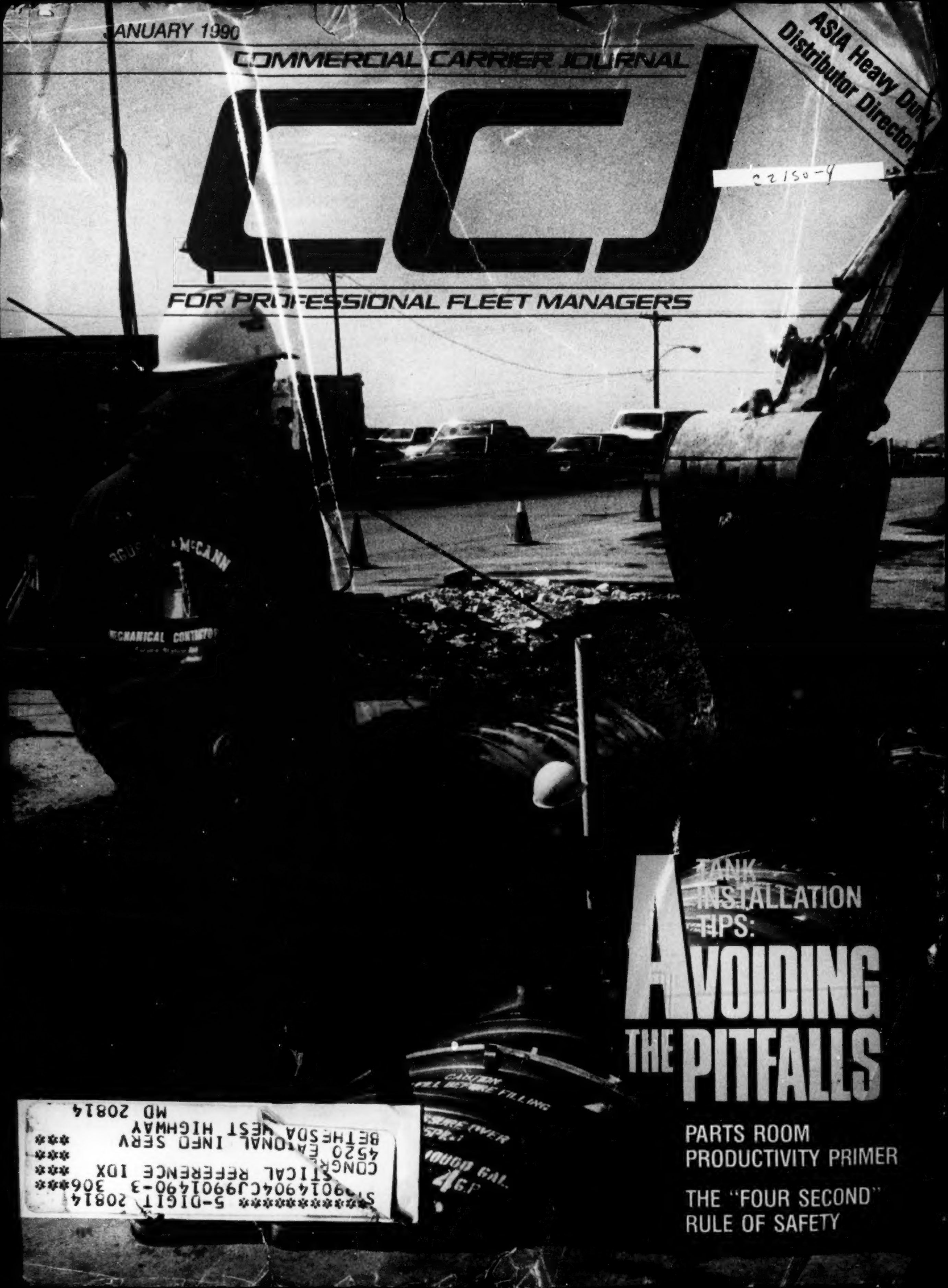
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VOLUME 147 NUMBER 1 JANUARY 1990

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PLANNING AHEAD

Last year, the editorial staff started work on a major project for the March 1990 edition of CCJ. That effort will provide information so motor carriers can proactively handle environmental issues. Although CCJ has offered numerous award-winning articles that translated environmental regulations into plain English, this editorial package will present previously unpublished information on rules, services and products. The voluminous update will focus on engine emissions, alternate fuels, the impact of CFC restrictions, hazardous shop waste, underground storage tanks, enforcement of regulations, federal, state and local regulatory contacts, and an analysis of local initiatives such as those in the Southern California and Denver areas. ☐

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Report: Baseline Tractor Trailer Line-haul Costs—1988

The average total line-haul cost per mile in 1988 of a tractor pulling a closed top, dry freight trailer (or trailers) was 107 cents, according to a report by Dennis M. Monts, Statistical Analysis Dept., American Trucking Associations. That figure is a combination of average variable cost and average fixed cost, including overhead.

According to the report, the variable costs for operating tractor-trailers over-the-road amount to 79.26 cents per mile (see Table 1). The largest portion of that cost (48%) is driver compensation. Among non-driver variable costs, the most significant expense is fuel, oil, & lubrications (20%), followed by vehicle maintenance (15%). Monts noted that revenue equipment depreciation, averaging 8.09 cents, represents "book" depreciation, not depreciation associated with the equipments' demonstrated economic life.

"Other Operating Expenses" represent a variety of specific costs, including such items as antifreeze, brake fluid, cleaning supplies, hand tools, state vehicle inspections, etc.

The fixed costs, including overhead, for operating the same rig in 1988 amount to 27.74 cents per mile (see Table 2).

In 1988, line-haul expenses represented only about one-third of all general freight carrier costs, according to the report.

Monts cautioned that "no single figure (in his report) represents an absolute" because the trucking industry is so diverse. "Operating costs for a dry freight van can differ significantly from a tanker, a reefer or an auto rack," he said. And even when vocationally comparable carriers use the same type equipment, costs can vary because of factors such as driver wages, equipment age, maintenance and purchasing practices for fuel, parts, tires and outside services, fleet location and operating territory, climate, length of haul, taxes and license.

"In short, the figures in this analysis are averages and should not be used to represent any individual carrier's over-the-road costs," concluded Monts.

The cost data used in the report are based on annual reports submitted by 31 general freight carriers to the Interstate Commerce Commission for 1988.

Table 1: Tractor-Trailer Line-Haul Variable Costs—1988

	Cost per mile (in cents)
Driver Wages	37.92
Vehicle Repair & Service Wages	6.13
Vehicle Parts	4.09
Total Parts and Repair Wages	10.22
Outside Maintenance	1.87
Total Maintenance	12.09
Tires and Tubes	2.89
Other Operating Expenses	2.58
Fuel, Oil, & Lubrications	9.14
Federal Fuel & Oil Tax	3.64
State Fuel & Oil Tax	2.89
Total	15.68
Revenue Equipment Depreciation	8.09
Total—Variable Costs	79.26

Table 2: Tractor-Trailer Line-Haul Fixed & Overhead Costs—1988

	Cost per mile (in cents)
Salaries—Officers & Supervisors	2.05
Labor—Other than Driver Repair	1.03
Fringes	12.68
General Supplies & Expenses	1.24
Taxes & Licenses—Other than Fuel & Oil	2.70
Insurance	3.70
Communication & Utilities	0.64
Depreciation—Other than Revenue Equip.	0.25
Building & Office Equip. Rents	0.44
Purchased Transportation	3.00
Total Fixed and Overhead Costs	27.74

Food/garbage haulers to get congressional attention

Congress this year will consider a House proposal to bar refrigerated food-hauling trucks from carrying garbage and other solid waste. The proposal also would bar cargo tank trucks that carry edible products from carrying any non-food product, particularly chemicals.

The "Safe Transportation of Food Act" would require cargo tank trucks to be marked as food tanks or non-food tanks. The bill also would direct the Department of Transportation (DOT) to establish cleaning procedures for trucks used to carry food products.

In addition, DOT would be allowed to list some non-food items that could be carried in food trucks. The bill also requires that asbestos and infectious waste be hauled in dedicated vehicles.

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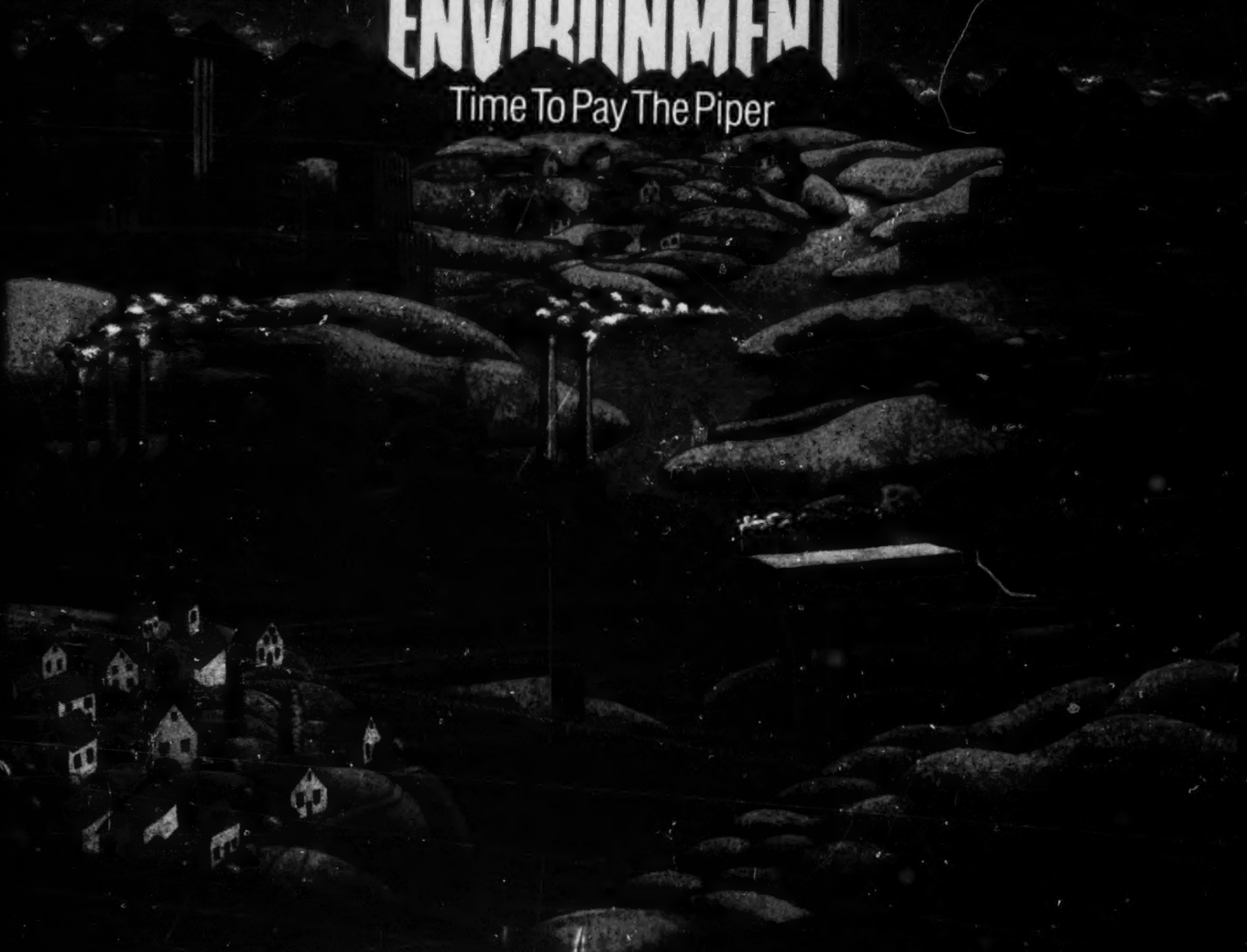
TRUCKING & THE ENVIRONMENT

Time To Pay The Piper



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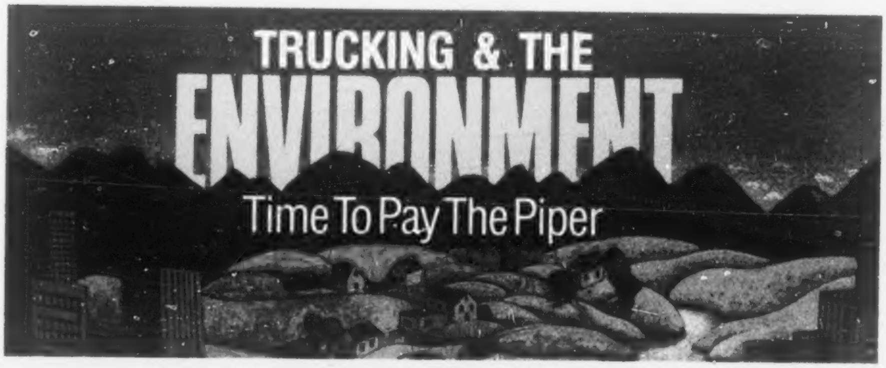

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IN THE NEXT ISSUE

In addition to providing updated information on reciprocity, registration, sizes and weights, permits and taxes, and access restrictions that's always in the Fleet Reference Annual section, the April issue will include a special article on leasing.

It will describe how corporations use leasing to solve new problems that have assaulted the over-capacitated, more complicated trucking environment. The article will discuss:

- How capital leasing allows corporations to scale down assets and minimize AMT tax liability.
- How full-service lessors solve problems such as finding qualified drivers and mechanics, replacing leaking underground storage tanks, disposing of used oil, solvents, batteries and tires. □

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Employee training: Major firms focus on basic skills

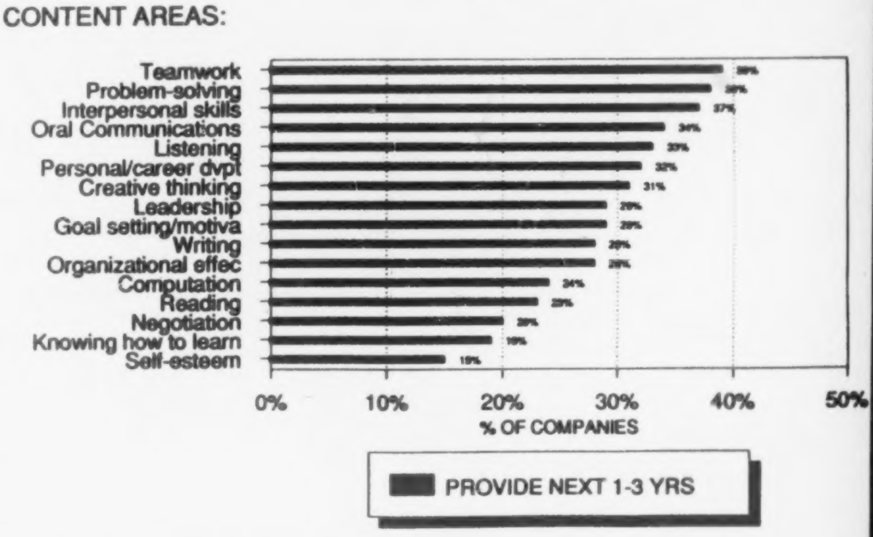
Truckers aren't the only American business people who have to cope with unskilled employees and under-trained job candidates. That's why more than 90% of the nation's largest companies will be providing training in basic workplace skills within the next three years.

That determination is based on a recent survey conducted by the American Society for Training and Development, Alexandria, Va.

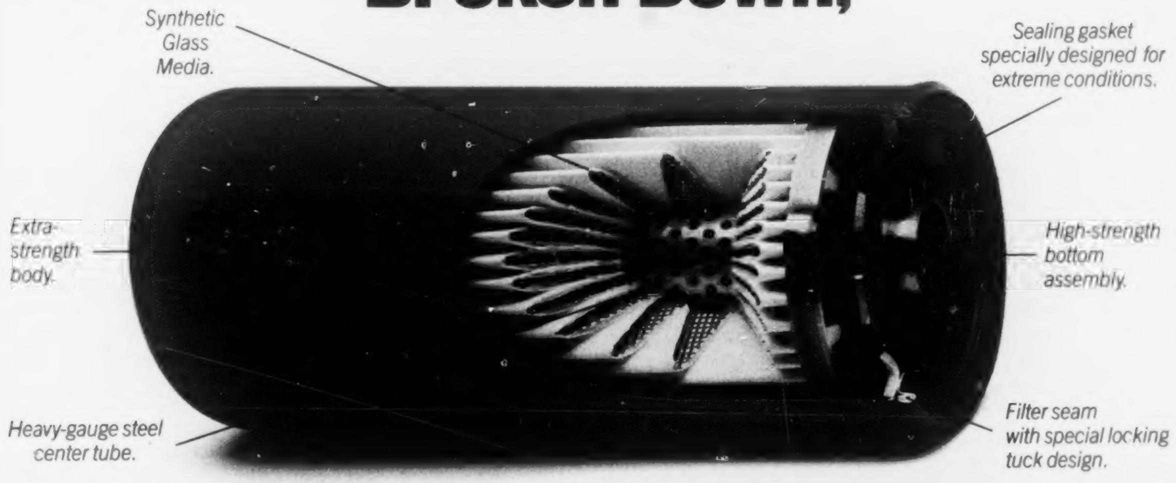
Using the 13 "necessary basic skills in addition to reading, writing and computation," established in an earlier ASTD study, the survey of 200 human resource executives from *Fortune 500* corporations, companies and major private firms also found that:

- 73% already provide some type

Ranking Of Skills To Be Taught Hourly Employees



We Thought You'd Rather See This Broken Down,


Synthetic Glass Media.
Sealing gasket specially designed for extreme conditions.
Extra-strength body.
High-strength bottom assembly.
Heavy-gauge steel center tube.
Filter seam with special locking tuck design.

If you run your fleet in the most grueling environmental conditions, then take a good, hard look at our new heavy duty oil filter with Synthetic Glass Media (SGM)–a specially designed four-layer filtration medium for superior performance under extreme conditions.

What you'll see is a filter that can remove up to 10 times more small, engine-damaging wear par-

FRAM Bendix Autolite

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of basic skills training for hourly and nonsupervisory employees;

- 54% of the companies surveyed said they offer basic skill training to new employees, and 16% said they plan to provide it in the future.

Basic skills receiving the most attention, according to ASTD, are problem-solving (58%), teamwork (51%), interpersonal skills (48%), oral communication (45%) and listening (43%).

Some of survey respondents also are teaching academic subjects such as: writing (41%), computation (31%) and reading (22%).

The reasons why the training is being offered are: to upgrade the work skills of current employees (68%), changes in work processes (58%), and changes in technology (56%). □

Hub Group challenges J.B. Hunt's joint marketing venture with railroad

It was noted in the news section of the February issue of CCJ that the Atchison, Topeka and Santa Fe Railway and J.B. Hunt Transport announced plans for a joint intermodal program called Quantum service. Hunt solicits and picks up freight in the Midwest, then delivers it to Santa Fe for a rail move to the West Coast. The Lowell, Ark.-based truckload carrier then reclaims the freight and makes the final delivery.

Now the Hub Group is making tracks to "compete directly" with the Santa Fe/Hunt venture, according to Phillip Yeager, Hub's chairman.

The Hub Group says its competing intermodal service will "take as much business off the highways as Hunt, but with lower costs and superior service."

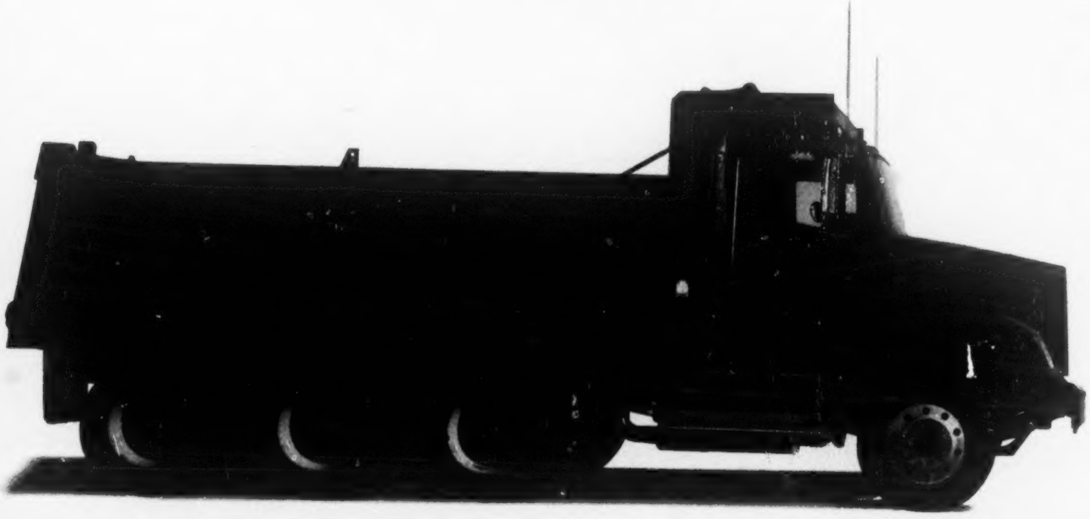
Yeager noted that the service is called Bantum because Hub is smaller than Hunt and because "the nation's largest independent shipper agent," has the "ability to work more closely with customers."

The competing door-to-door services will be similar—third morning delivery of 48-ft-long units to Los Angeles from Detroit and Chicago via Santa Fe.

However, the guaranteed Bantum operation also includes:

- a $200 penalty if Hub doesn't meet delivery requirements;
- a $200 savings can be realized when freight is moved on another railroad—via one of API's double stack trains—and the transit time is four hours longer than the regular Bantum option. The alternative also includes a $200 delivery guarantee. □

Than This.



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Introducing Fram Wearguard HD Oil Filter With SGM

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ENFORCEMENT: THE HEAT IS ON

No trucking executive has spent time in jail for an environmental crime, but corporate executives in other businesses, who failed to take new enforcement efforts seriously, have looked back on their indiscretions through iron bars. Clearly, enforcement targeted at individuals is on the rise, and not just at the federal level.

CLEAN AIR ACT
CLEAN WATER ACT
RCRA
TSCA
CERCLA
SARA

It was the first case linking an environmental criminal violation with knowing failure to perform preventive maintenance. It was the second environmental case in which a company was convicted of criminal negligence for improperly managing lower-level conduct. By trial's end, the case would claim an additional first.

On May 20, 1988, a federal grand jury indicted Pennwalt Corp., one of the nation's largest chemical companies, and four of its corporate officials on charges of polluting a waterway with hazardous chemicals.

Despite an apparent ability to have fixed a known structural weakness of a holding tank, officials failed to prevent a 1985 spill of approximately 75,000 gallons of a highly toxic and potentially cancer-causing liquid into a waterway from the ruptured tank. According to one court document, the tank was corroded so badly that one worker said it resembled cancer on a car fender, reported *The New York Times,* July 1989. The government also accused the company of trying to hide the spill from state inspectors and lying to the Coast Guard about what was spilled.

The four officials, employed by the Philadelphia-based corporation, were indicted on six criminal violations. The company faced fines up to $1 million, and individuals faced jail sentences up to nine years.

In a plea agreement with the government, Pennwalt Corp. agreed to pay $1.1 million in exchange for criminal charges being dropped against corporate officials. The plea was accepted August 9, 1989, but only after U.S. District Court Judge Jack Tanner, in June, called for corporate accountability, reported *The Times.* "I want the top officer here," said Judge Tanner.

Continued

EPA CRIMINAL ENFORCEMENT FY1982 to FY1988

	FY82	FY83	FY84	FY85	FY86	FY87	FY88
Referrals to DOJ	20	26	31	40	41	41	59
Cases successfully prosecuted	7	12	14	15	26	27	24
Defendants charged	14	34	36	40	98	66	97
Defendants convicted	11	28	26	40	66	58	50
Months sentenced			6	78	279	456	278
Months served			6	44	203	100	185
Months probation		534	552	882	828	1410	1284

Source: EPA Office of Enforcement and Compliance Monitoring

Though Pennwalt officials managed to escape hard time, have no doubt that the heat is on. Judge Tanner's insistence on accountability by the highest official was a precedent setting action. Law professionals are confident the trend toward hardball will pick up speed in the 1990s.

The numbers

Since 1899, when the first pollution control act (Rivers and Harbors Act) was enacted, until 1981, approximately 15 environmental crimes were prosecuted, says Government Institutes Inc., a specialist in environmental education. That's less than two per decade. By comparison, 1989 hosted 101 indictments and 107 guilty pleas and convictions, according to the Department of Justice.

Everyone seems to be hopping on the environmental bandwagon. In the decade ahead, criminal prosecution of environmental crime will become ever more prominent, said Jay Manning, assistant attorney general-hazardous waste department, in Seattle, Wash. Right now, it's a novelty to most judges, Manning said.

Still, the Environmental Crimes Section of the Department of Justice (DOJ) has statistics demonstrating an increased effort in dealing with environmental violations. Currently, 25 full-time attorneys are on staff to handle the cases. From 1983 through 1989, the DOJ recorded indictments against 569 corporations and individuals. From those, 432 pleas and convictions have been recorded and $26,094,108 in federal fines assessed. More than 271 years of jail time have been imposed, with approximately 102 years of that time served by the end of 1989. For a breakdown on these numbers, see the accompanying chart.

According to Tom Samoluk, a spokesman for Scott Harshbarger, a Massachusetts district attorney and president of the Massachusetts District Attorneys Assn., jail time for environmental crime is given to the extreme offenders. Prosecutors are not out to get the person who makes a mistake, said Samoluk. Typically, cases involve long-term abuses, he added, and people with a blatant disregard for the laws and even others' lives.

For example, Manning tells of a New York case involving a manufacturer of illegal drugs. Chemicals used in the process were stored in a shed which one day caught fire.

If the shed had blown up, the explosion would have been devastating, explained Manning. Drug maker Carlos Gomez was found in violation of the Resource Conservation and Recovery Act and convicted of knowing endangerment. Gomez is serving 10 years in jail. The sentence, handed down July 17, 1989, is the most severe to date, said Manning. For statistics on criminal enforcement of environmental crime, see the accompanying chart.

What the feds want

Federal and state laws allow for both civil and criminal enforcement of the environmental statutes highlighted below. Though several still carry just civil maximal penalties, meaning a sentence of no more than one year in jail, Manning said nothing's more effective than criminal enforcement. Thus government at all levels will act to stiffen penalties in the 1990s, he adds. Statutes regulating the environment which the trucking industry should be familiar with are listed below. Sources for this information were EPA's Office of Enforcement and Compliance Monitoring and the Environmental Health Center, a division of the not-for-profit, nongovernmental National Safety Council. Both sources are located in Washington, D.C. Also consulted was Government Institutes Inc. (see additional sources at report's end).

- **Resource Conservation and Recovery Act (RCRA):**

Established in 1976 to govern storage, transportation, treatment and disposal of hazardous waste. Followup Acts under RCRA are Hazardous Materials Transportation Act (HMTA) and Emergency Planning and Community Right to Know Act (EPCRA). HMTA concerns registering and placarding hazardous materials. Under the EPCRA, extremely hazardous materials (of which 366 exist), if released in the environment, must be reported immediately to state and local authorities responsible for emergency planning.

Amendments in 1984 to RCRA tripled the maximum penalty for individual violations from five to 15 years in prison and/or up to $250,000 in fines for knowing endangerment, which is creation of a risk of harm. An organization may be fined up to $1 million.

RCRA allows penalties of up to five years' imprisonment and/or a $50,000 fine for each day of violation, to be imposed against any person who is convicted of the following:

1. Knowingly transporting or causing to be transported any hazardous waste or used oil to an unpermitted facility.

2. Knowing treatment, storage or disposal of hazardous waste or used oil (a.) without a permit; (b.) in knowing violation of permit condition; or (c.) in knowing violation of interim status standards.

Penalties of up to two years' imprisonment and/or a $50,000 fine are allowed for each day of violation for persons who commit the following:

1. Knowingly omitting material information or making false statements in documents required for compliance with RCRA.

2. Knowing destruction, alteration, concealment or failure to file records required for compliance with RCRA.

3. Knowingly transporting or causing to be transported hazardous waste or used oil without a manifest.

4. Knowing export of hazardous waste without compliance with export procedures.

A second conviction doubles the maximum sentence available under any provision.

• **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):**

Commonly referred to as Superfund (CERCLA) was enacted in 1980 to facilitate the cleanup of the nation's worst hazardous waste sites. In addition to liability for the expense of cleaning up the site, liability also may include the cost of providing alternative water supplies and damages for restoring natural resources.

Strict liability standards make past and present users of a site responsible for that site. Also liable are generators of waste that was sent to the site.

It is not a defense that the generator exercised due care in arranging disposal or that the disposal facility complied with all applicable environmental and safety requirements. Only three defenses exist: release of hazardous substances caused by an act of war, an act of God, or an act or omission of a third-party who is not directly or indirectly involved in a contractual relationship with the defendant.

Where harm is indivisible, a single generator of hazardous substances may be forced to pay the entire cost of cleaning up the site if other companies involved have since become insolvent. This holds true even if the majority of hazardous substances has been sent to the site by other generators. Important to note is the Act's purpose to reach past conduct, including conduct occurring prior to CERCLA's enactment.

Citizens and/or employees who report a crime to EPA under CERCLA may receive a $10,000 reward if the tip is the first received; concerns a serious offense that would not have been discovered by EPA; the reporter is willing to testify, and the pollutor is convicted.

• **Clean Water Act (CWA):**

This is the water statute most often used by prosecutors. Others you may encounter are Marine Protection, Research and Sanctuaries Act (MPRSA), Rivers and Harbors Appropriations Act of 1899 and Safe Drinking Water Act (SDWA). All offer penalties to persons who illegally discharge pollutants or hazardous substances into waterways. Anyone blatantly disregarding the regulations can reasonably expect more than a slap. Under CWA, up to five years in jail and/or a fine of $50,000 a day is allowed.

Additionally, under this Act, the EPA may assure that the Federal Government does not do business (engage in grants, contracts or loans) with facilities that have demonstrated a pattern of noncompliance with CWA.

In terms of civil penalties, meaning fines only, the Clean Water Act

Continued

DEPT OF JUSTICE ENFORCEMENT RESULTS

This chart shows the results of increased enforcement efforts by the U.S. Dept. of Justice. Fines, jail sentences and actual time served for environmental criminals have each risen dramatically during the past seven years.

	Fines imposed/$	Jail terms	Actual confinement
FY83	341,100	11 yrs.	5 yrs.
FY84	384,290	5 yrs. 3 mos.	1 yr. 7 mos.
FY85	565,850	5 yrs. 5 mos.	2 yrs. 11 mos.
FY86	1,917,602	124 yrs. 2 mos. 2 days	31 yrs. 4 mos. 12 days
FY87	3,046,060	32 yrs. 4 mos. 7 days	14 yrs. 9 mos. 22 days
FY88	7,091,876	39 yrs. 3 mos. 1 day	8 yrs. 3 mos. 7 days
FY89	12,747,330	51 yrs. 25 mos.	36 yrs. 14 mos.
TOTAL	26,094,108	267 yrs. 44 mos. 10 days (270 yrs. 8 mos. 10 days)	97 yrs. 58 mos. 41 days (101 yrs. 11 mos. 5 days

Source: *U.S. Dept. of Justice, Environmental Crimes Section* in 1988 resulted in the greatest amount of fines, 34%, against individuals and corporations.

- **Clean Air Act (CAA):**

EPA established air quality standards for six air pollutants regulated under the CAA. These are carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter and sulfur dioxide. This Act has provisions for both mobile and stationary sources of clean air violators.

Currently, under federal law, this Act carries misdemeanor maximal penalties, meaning no more than a one-year jail sentence is allowed.

Additionally, under this Act, the EPA may assure that the Federal Government does not do business (engage in grants, contracts or loans) with facilities that have demonstrated a pattern of noncompliance with CAA.

This is a popular Act among prosecutors. In 1988, it accounted for the second largest number of cases under any environmental Act and second largest amount of fines.

- **Toxic Substances Control Act (TSCA):**

Controls toxic substances entered into the interstate market and registration of intent to distribute. It carries federal misdemeanor maximal penalties, meaning no more than a one-year prison sentence allowed, except for disclosure of confidential information, which is considered a felony.

In 1988, TSCA claimed the greatest number of environmental cases, says EPA's Alderson.

- **Federal Insecticide, Fungicide and Rodenticide Act (FIFRA):**

This Act regulates registration and tolerance levels of pesticides.

Fines, prison sentences for violators

Prison for illegal storage

On October 28, 1988, Kasema Mackenzie, owner of Washington Environment Pro-Tech Inc., pled guilty to one count of illegally storing hazardous waste, in violation of RCRA. Mackenzie had stored 300 55-gal drums, containing hazardous waste, in a mini-storage complex.

Mackenzie was ordered to pay $100,000 restitution for clean up costs that were incurred by the EPA. He was sentenced to six months' imprisonment, 30 months' suspended sentence and three years' probation.

(Case briefing courtesy of EPA's National Enforcement Investigations Center, Denver, Colo.)

No permit gets stiff fine

Riedel International Inc., parent company of the ready-mix concrete plant Pioneer Construction Materials Co., Seattle, Wash., was charged with six counts of negligently discharging waste water into a navigable water of the United States without the necessary permit, violating the Clean Water Act. James Repman, president of Pioneer, and Ronald Summers, operations manager at Pioneer, were charged with two counts each of negligence in violation of CWA.

Riedel International was sentenced on December 2, 1988, to pay a $150,000 fine, plus a $150 assessment to the Crime Victims Fund. Repman was fined $10,000 and must serve three years' probation and perform 150 hours of community service. Summers was ordered to pay a $3,000 fine, serve five days' imprisonment, three years' probation and perform 150 hours of community service.

(Case briefing courtesy of EPA's National Enforcement Investigations Center, Denver, Colo.)

Jailed for polluting

In a stationary source Clean Air Act case settled in October 1988, four managers of demolition for Great Neck, N.Y.-based Cuyahoga Wrecking Co. were sentenced to prison.

Lengths of sentences ranged from two months to 18 months. Defendants were charged with conspiracy to defraud the U.S. EPA and demolish buildings and structures in violation of emission standards for asbestos, failure to immediately notify the appropriate U.S. Government agency of the release of a reportable quantity of asbestos, and other charges related to the release of asbestos into the air.

The company was ordered to pay a $250,000 fine.

(Case briefing courtesy of EPA's National Enforcement Investigations Center, Denver, Colo.)

As penalties take on more force, prosecution and jail time will become more prominent.

It carries federal misdemeanor maximal penalties, meaning no more than a one-year prison sentence allowed, except for disclosure of confidential information, which is considered a felony.

What's happening locally

At a National District Attorneys Assn. conference, held July 17, 1989, in Maine, Scott Harshbarger, D.A. of Middlesex County, Mass., called for District Attorneys across the nation to get involved in environmental crime. Harshbarger urged the group to get local law enforcement involved in the effort by providing them with education. The rally paid off, said Tom Samoluk, Harshbarger's spokesman. Numerous prosecutors wanted copies of the speech; D.A.s in Chicago, Denver and Los Angeles already are actively pursuing environmental cases.

In Middlesex County, the District Attorney's office energizes local law enforcement, including fire officials and conservation groups, by bringing the group together for a day-long comprehensive seminar. Environmental laws are reviewed, plus how to recognize violators, investigate the crimes and utilize resources, said Samoluk. The Massachusetts office even produced a manual to assist the education process. And they are having trouble keeping the manual in stock, he added.

"We encourage [local law enforcement] to get the District Attorneys' office involved as soon as possible," said Samoluk. A case demonstrating teamwork currently is being investigated by Samoluk's office.

State police, working with the District Attorneys office, "were put on surveillance and caught five 18-wheelers, carrying tons of debris, [illegally] dumping at a site," stated Samoluk. The material being dumped was not thought to be hazardous.

Samoluk lists as a roadblock to prosecution a lack of reports on abuses from public or local officials.

Another stumbling block is lack of manpower and resources, which, Samoluk said, always will be a hindrance in pinpointing environmental violators.

Currently, state governments are working to toughen up laws, said Samoluk. For example, in 1987, Massachusetts law regulating penalties for illegal dumping was amended to allow jail time. As the penalties begin taking on more force, prosecution and jail time will become more prominent, he said.

Minimize your liability

OSHA offers a free consultation service for employers who would like help pinpointing trouble spots in the workplace. The service provides the following: helps workers recognize hazards; suggests options for solving safety/health problems; identifies source of help available. The comprehensive consultation also will include an appraisal of mechanical and environmental hazards; appraisal of present job safety and health program; a conference with management on the findings; a written report of recommendations and agreements; and, training and assistance with implementing recommendations.

Problems found by the service, operated independently of OSHA, often don't cost money to correct, said William B. Hoffman, a consultant with West Virginia's Safety and Health Department of Labor, which performs the service in that state. Sometimes the hazard is just a maintenance problem and can be fixed in-house.

Consultants will suggest effective ways to eliminate the problem; they are not allowed to report problems to OSHA.

However, if a problem found is an imminent danger and the employer does not act immediately to eliminate it, the inspector may report the problem to OSHA, said Hoffman. If a company checks out okay following an inspection by the free service, it may apply for a one-year exemption from a random inspection by OSHA, he added.

For more information

- *"Getting Tough on Environmental Crime,"* Resources, *October 1989, The ERM Group, 855 Springdale Drive, Exton, Pa. 19341; 800-544-3117.*
- *"Used Oil: Disposal Options, Management Practices and Potential Liability," Second Edition, c. March 1989, Government Institutes Inc., 966 Hungerford Dr., #24, Rockville, Md. 20850. 301-251-9250.*
- *"FY 1988 Enforcement Accomplishments Report", United States Environmental Protection Agency, Office of Enforcement and Compliance Monitoring, Washington D.C. 20460.*
- *"Consultation Services for the Employer," available free from the Occupational Safety & Health Administration. Contact your local OSHA office listed in the phone directory under government agencies.*
- *"Prosecuting Environmental Crimes," by Scott Harshbarger, District Attorney of Middlesex County, Mass., and president of the Massachusetts District Attorneys Association, published by* Vital Speeches of the Day, *City News Publishing Co., 389 Highway 17 Bypass, Box 1247, Mt. Pleasant, S.C. 29465. 803-881-8733.* □

TRUCKING & THE ENVIRONMENT

REGIONAL AND LOCAL STAKES IN EMISSIONS

The states are not sitting back and waiting for the federal government to tell them what to do about vehicle emissions. They're taking the initiative by enacting their own emissions controls, more stringent than federal requirements.

The impetus for such action is many states' inability to meet federal air quality standards without the stricter controls and the slowness of the federal government to move on the Clean Air Act amendments.

The Environmental Protection Agency (EPA) reported in July 1989, that 101 areas, most of which are major metropolitan areas, experienced ozone levels during 1988 that exceeded the federal air quality standard for ozone.

Southern California, in particular, has some of the worst air in the country. The region's ozone levels are three times higher than the acceptable national health standard, the carbon monoxide levels are twice the federal standard, and levels of particulate matter in the air are 80% above the federal standard. The Southern California basin remains the only region that still violates national nitrogen dioxide standards.

The South Coast Air Quality Management District reports that air pollutants exceed acceptable levels about 200 days a year.

Furthermore, the region's bad air reportedly costs an estimated $13 billion annually in health effects, $7 million in crop damage, $57 million in damage to materials and $275 million in "visibility degradation."

EPA is exerting strong pressure on Los Angeles to take corrective action, and various agencies are scrambling to come up with solutions to prevent fines and a possible loss of federal funds. Already EPA has withheld sewer funds from Los Angeles because of the area's poor air quality, according to Karen Rasmussen, director of governmental and industry affairs for the California Trucking Assn.

The efforts of those agencies have resulted in the Air Quality Management Plan (AQMP), which serves as a framework for all pollution control efforts in the South Coast Air Basin. The ultimate goal of the plan is to reduce emissions to the point where all the federal air

Continued

At least 12 states and numerous local municipalities have stopped waiting for the federal government to deal with serious environmental threats believed to result from vehicle emissions. The anticipated impact of regional and local initiatives on motor carriers includes cost raising items like restrictions on operating hours, special permit fees, alternative and dual-fuel fleets and en route delays for vehicle emissions inspections.

Los Angeles mayor Tom Bradley has proposed to limit truck traffic on city streets during peak commuting periods.

quality standards are met by the year 2007. To accomplish that goal, the plan encompasses more than 100 rules designed, among other things, to clamp down on emissions, encourage change in commuter habits and set guidelines for cities as they plan the use of land to minimize pollution.

Following is a description of the South Coast Air Quality Management District's three-tier plan for improving air quality in the South Coast Air Basin:

Tier I:

Tier I includes about 120 control measures that can be adopted within the next five years using currently available technological applications and management practices.

Some of the 39 measures affecting the automotive industry include: lowering emissions test standards for new cars to 0.25 grams of hydrocarbon (from 0.39), 3.7 grams of carbon monoxide (from 7), 0.4 grams of nitrous oxide (from 0.7) per mile driven; lowering emissions limits for diesel-powered vehicles; requiring fleets with more than 15 vehicles to replace scrapped vehicles with methanol-powered vehicles.

All the Tier I control measures are expected to be adopted by the appropriate implementing agency by 1993. Full implementation of some measures will not occur until 2007.

Tier II:

Tier II measures include already-demonstrated control technologies and technological advancements expected to occur in the near future. The goal for Tier II is to achieve 40% use of low emitting passenger vehicles; 70% use of low emitting freight vehicles; 100% use of low emitting transit buses.

"Low emitting" refers to all emission control technologies, as well as all fuels, that, on an equal Btu basis, produce lower levels of reactive organic gases, NOx, CO and PM emissions compared to conventional fuels and are at least as clean as methanol.

All the Tier II goals are expected to be achieved by the year 2000 except for transportation facility construction, which may continue until the year 2007.

Tier III:

Tier III requires commitments to research, development and widespread commercial application of technological advancements that may not exist yet. Some 95% of cars would be powered by fuels other than gasoline by 2007. Those vehicles would be essentially emission-free, probably through the development of electric-powered vehicles.

Each proposal in the plan must go through a rulemaking and public hearing process that would require months to complete. However, some of the measures could become law by the early 1990s, although they might not become effective until years later.

Other ways to improve air quality

In addition to the AQMP, the Southern California region is attempting air quality improvements through other means. For example, Los Angeles mayor Tom Bradley has proposed to limit truck traffic on city streets during peak commuting periods—between 6:00 a.m. and 9:00 a.m. and from 4:00 p.m. to 7:00 p.m. No tractor-semitrailers and three-axle straight trucks weighing 26,000 lb or more would be allowed to operate during those periods unless their owners purchase exemption certificates. However, only a maximum of 30% of any fleet's heavy vehicles could be exempted from the ban. Carriers traveling during just one peak could obtain exemptions for 60% of their tractor-trailers. The exemption certificates could cost up to 60$ a truck per year.

The program also would force shippers and receivers with five or more pickups or deliveries a week to stay open at least four hours each work day between 8:00 p.m. and 6:00 am. City agencies would accept deliveries only at night.

First proposed in 1986, the plan has not yet been approved by City Council. Even if approved, the plan likely would encounter legal obstacles. For example, DOT recently ruled that New York City's time-of-day and route restrictions of hazardous materials shipments were inconsistent with federal law. DOT's determination, however, does not have the force of law, and so, until a judge hands down a ruling on the case, the city can continue to restrict such shipments. Other cities are instituting similar bans or restrictions, among them Boston and Houston.

The California Air Resources Board has adopted stringent new state requirements to reduce the sulfur level and aromatics content of diesel fuel. The standard calls for a reduction in sulfur levels to 0.05%, compared with an average of 0.28%. The new limit on aromatics would be set at 10% for most refiners and 20% for small refiners, compared with average levels of 31%. The standards are scheduled to go into effect by October 1993.

A 5% sulfur limit is already in effect in the southern part of the state. The new requirement would extend the 5% sulfur limit to the remainder of the state and add the aromatic content reduction.

The federal EPA has proposed a similar reduction in diesel fuel sulfur levels for the country, but the proposal is being opposed by small refiners in the Northeast who claim they can't afford to retool their refineries and will go out of business if they're forced to do so.

In addition, California is expected to start a heavy-duty diesel truck inspection program later this year to identify "gross emitters" of vehicle emissions.

Any truck traveling in the state could be subjected to the inspection. If a truck fails the inspection, it would be taken out of service until fixed. At a minimum, the carrier would have to pay a $300 penalty, which would go into a fund for research to reduce truck emissions.

During a pilot inspection program, 42% of the trucks failed the inspection. The reason for failure was often due to bad fuel injectors or tampering with smoke puff limiters.

California is not the only state that will impact truck operations by means of emissions regulation. Impatience with the government's leniency and slowness to act on the air quality issue have caused several states to take the initiative. For example, a coalition of eight northeastern states, called the Northeast States of Coordinated Air Use Management (NESCAUM), have announced their intention of adopting elements of California's emissions control standards. They have also agreed to reduce gasoline volatility levels during Summer and to require Stage II vapor control nozzles on gasoline pumps.

As part of the initial Clean Air legislation, California was allowed to enact stricter emissions standards because of its particularly serious smog problems. In 1977, Congress amended the law to allow other states to copy the California standards. Until now, none have made such a move.

NESCAUM's plan was jointly developed by the clean-air agencies of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont. Those agencies agreed to adopt California's automobile emission standards, including extending the emissions warranty to 10 years/100,000 miles. Presently, vehicles are required to meet exhaust standards for 50,000 miles. The new standards will raise the price of a typical new car by 1%, or $150, according to NESCAUM.

The NESCAUM proposal must go through a long approval process, including approval by EPA. However, the tougher standards could go into effect, on schedule, with the beginning of the 1993-model year.

The Northeast consortium may be just the first group to act. Other states with air pollution problems are also considering adoption of the California tailpipe standards, and some are considering instituting roadside emissions inspections for heavy-duty vehicles.

For example, a hearing was held

Continued

Don't blow smoke in Colorado

Resident and out-of-state truckers violating emissions rules will face fines of $100 to $1,000 in Colorado effective Jan. 1, 1990.

The new law limits the opacity of a diesel engine's smoke plume to 40% for vehicles operating along the Front Range (all communities between Ft. Collins and Colorado Springs). Opacity is the amount of light obscured by a diesel smoke plume.

Other areas of the state permit 50% opacity for five seconds for trucks with a GVW over 8,000 lb and operated above 7,000-ft elevation.

Diesel trucks that are parked and make a cold start-up are permitted to exceed the limits for 10 minutes.

Fleets registered or principally operated in the Front Range area can opt for a self-certification smoke program if they have nine or more diesel-powered vehicles over 7,500- lb tare weight. Truckers with less than nine units must have their trucks inspected by state stations.

The rule mandates that fleets adhere to an engine-related preventive maintenance program that assures low-smoke levels. At the least, fleets must follow the engine manufacturer's recommended procedures and intervals, and records must be kept to verify compliance.

Trucks that fail the emissions inspection must be repaired to bring them into compliance. For light-duty diesels (less than 7,500-lb tare weight), a minimum of $750 must be spent before the state will issue an opacity waiver. For heavier trucks, a minimum of $1,500 must be spent before a waiver will be issued.

Macie LaMotte Jr., of the mobile sources section, Colorado Dept. of Health, Air Pollution Control Div., Denver, Colo., said the state is gearing up to enforce the new regs. "We are training at least 400 smoke enforcement officers each year. In addition, judges are more knowledgeable about the smoke laws and how to apply them. The City of Denver has a special environmental court to handle violations."

The most restrictive diesel smoke regulations range from 20% to 40% opacity. The cities with those limits include: Arvada, 40%; Aurora, 20%; Boulder, 30%; Denver, 20%; Englewood, 40%; Federal Heights, 20%; Glendale, 20%; Northglenn, 20%; Wheatridge, 40%.

Specific details for all the rules can be obtained from: Colorado Dept. of Health, Air Pollution Control Div., 4210 E. 11th Ave., Denver, Colo. 80220, 303-331-8563/303-331-8597.

The cost of safety and clean air

Implementation of California's safety and clean air programs will raise motor carriers' operating costs by 25% to 69%, according to Luke Sherwood, manager of regulatory programs for the California Trucking Assn.

"Truckers must screen and test their drivers to comply with tougher drivers license standards and drug testing requirements," says Sherwood. "New regulations dealing with when and where we can travel and what fuels we can burn mean much higher costs. New rules on underground tanks will be implemented as well," he adds. "The trucking industry is moving ahead on being the safest, most environmentally responsible industry in California."

Cost ranges for safety and environmental programs are shown in the following table.

Item	Percentage Cost Increase
Commercial License Enforcement	0.05 – 2.50%
Drug Testing Costs	0.10 – 3.75%
Workers' Comp Reform Costs	1.00 – 6.35%
Off Peak Trucking Costs	5.00 – 14.75%
Additional Training Needs	5.75 – 13.65%
Increased Capital Costs	5.50 – 11.35%
Cleaner Burning Fuel Costs	4.75 – 10.95%
Environmental Compliance	2.75 – 5.40%
TOTAL PUBLIC COST INCREASE	24.90 – 68.70%

recently in Illinois to discuss adoption of the California standards as a means of achieving emissions reductions. The St. Louis and Chicago metropolitan areas have particularly poor air quality.

The process is still in the information-gathering stage, and no formal proposal to adopt California's regulations has been written. Some groups want to wait until the federal government amends the Clean Air Act. Others are urging Illinois to take the initiative.

In November 1987, NESCAUM's states entered into an agreement to reduce the volatility of gasoline sold during the ozone season (Summer). The states decided to act together because of the regional nature of the ozone problem in the Northeast, the large emission reduction benefits available and the slowness of the federal effort to reduce volatility levels.

Since then, each state (except New Hampshire, which plans to require the 9.0 psi RVP standard beginning in 1990) has adopted regulations requiring that gasoline sold between May 1 and September 15, beginning in 1990, have a volatility of 9.0 psi RVP.

Under the Clean Air Act, EPA's reductions in gasoline volatility preempt any state volatility controls, except California's, that are inconsistent with EPA's unless EPA approves the state controls as necessary to achieve air quality standards.

As of January, EPA had approved requests from Massachusetts, Connecticut, New Jersey, New York and Rhode Island. EPA was continuing to review requests from Maine and Vermont. Delaware, Pennsylvania, Maryland and Virginia are also considering requiring lower volatility levels.

In addition, California, which limits the volatility of gasoline sold in the state during the warmer months to 9.0 psi RVP, plans further reductions to 8.0 psi RVP.

Other state actions to reduce emissions involve Stage II vapor recovery nozzles on fuel pumps. Those nozzles have been in use in California and the District of Columbia since the 1970s and, more recently, in St. Louis, Mo., the New York City metropolitan area and New Jersey.

In addition to New York and New Jersey, air quality agencies in the other six NESCAUM states—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont—agreed in October 1988, to recommend adoption of Stage II controls by 1992.

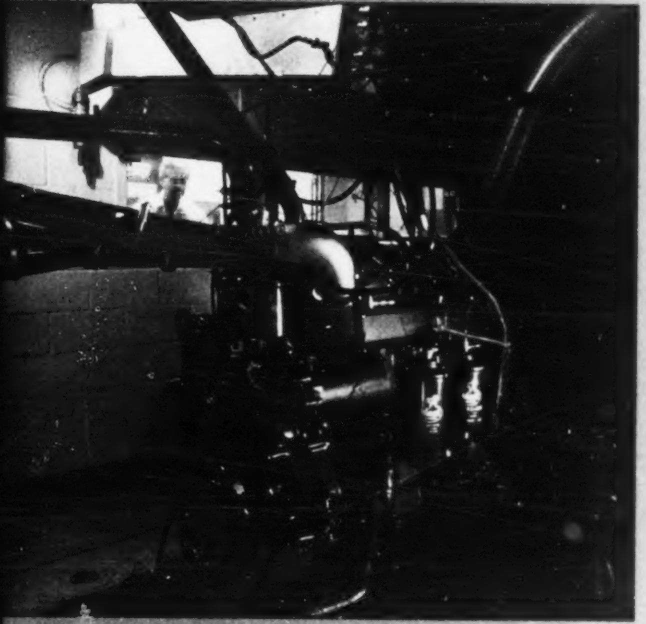
Also, a Stage II control nozzle that is more user-friendly and efficient than current equipment has been certified by the state of California. According to the compliance division chief, the new nozzle would be $200 to $400 more expensive than the current Stage II.

State/local air quality agencies will have more information.

For more information

- *Northeast States for Coordinated Air Use Management (NESCAUM)*
85 Merrimac St., Boston, Mass. 02114 617-367-8540
- *South Coast Air Quality Management District (SCAQMD)*
9150 Flair Dr., El Monte, Calif. 91731 818-572-6200
- *California Air Resources Board*
PO Box 2815, Sacramento, Calif. 95812 916-322-2990
- *"EPA's Efforts to Control Gasoline Vapors from Motor Vehicles" (GAO/RCED-90-21)*
U.S. General Accounting Office, PO Box 6015, Gaithersburg, Md. 20877 202-275-6241.
- *"The path to clean air: attainment strategies." A summary of the 1989 South Coast Air Quality Management plan. Available from SCAQMD (see address above).*
- *"Catching our breath: next steps for reducing urban ozone." A report from the Office of Technology Assessment. Write: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325 202-783-3238. Stock No. 052-003-01159-0.* □

DIESEL EMISSIONS: TOO MUCH IN THE AIR



When the EPA's 1991 diesel emissions regulations take effect, fleetmen can expect to see engine design changes. But, except for urban bus applications, the changes will be minor. Tougher regulations will take effect in 1994. And just how engine manufacturers will meet them is unknown.

During normal operation, diesel engines produce potentially harmful substances which are emitted as exhaust. The four that have come under federal regulation are:

(1) Carbon monoxide (CO) is a toxin that, when inhaled in sufficient quantity, inhibits the blood's ability to absorb oxygen. Diesel engines are naturally low producers of CO, and meeting EPA's standard—which stays at 15.5 grams-per-brake-horsepower-hour (g/bhp-hr) from now through 1994—is not viewed as a problem for engine builders.

(2) Hydrocarbons (HC) consist chiefly of unburned fuel. They give diesel exhaust its sharp smell, but are not considered dangerous by themselves, except in extreme concentrations or to people with a specific sensitivity. They are, however a key player in the production of ozone, or photochemical smog. The mandated standard for HC emissions—which will remain 1.3 g/bhp-hr through 1994—has been relatively easy for diesel engine manufacturers to meet.

(3) Oxides of nitrogen (NOx) are oxidants, extremely irritating to human and animal lung tissue. Mix NOx with HC emissions, add sunlight, and you've got ozone. Ozone is even more irritating than raw NOx, and can cause permanent lung damage. When combined with sulfurous combustion byproducts, NOx emissions also play a part in the formation of acid rain.

For 1991, the EPA standard for NOx drops from the present 6.0 g/bhp-hr to 5.0 g/bhp-hr, where it will remain through 1994. This, in combination with future standards for particulates, will be troublesome for engine makers, especially in 1994.

(4) Particulate matter (PM) is the most visible pollutant, also known as soot. Particulates are minute bits of carbon and sulfurous compounds formed by incomplete combustion of fuel and lubricating oil. Recently labeled by OSHA as a "potential carcinogen," about 30% of diesel particulate emissions are directly related to fuel sulfur content (see companion story in this issue, *The health effects of diesel smoke*).

1991 regulations for heavy trucks reduce the allowable amount of PM from the current .60 g/bhp-hr to .25 g/bhp-hr. In 1994, the level must again be chopped by more than half, to .10 g/bhp-hr. For intracity buses, the level drops from .60 g/bhp-hr to .10 g/bhp-hr in 1991. In other words, urban buses must meet 1994 PM regulations in 1991.

Continued

HEAVY—DUTY TRUCK ENGINE EMISSION STANDARDS

(g/bhp-hr measured during EPA heavy-duty engine test)

Model Year	NOx	HC	CO	PM
1988	10.7	1.3	15.5	0.60
1990	6.0	1.3	15.5	0.60
1991	5.0	1.3	15.5	0.25
1994	5.0	1.3	15.5	0.10

URBAN BUS HEAVY—DUTY ENGINE EMISSION STANDARDS

(g/bhp-hr measured during EPA heavy-duty engine test)

Model Year	NOx	HC	CO	PM
1988	10.7	1.3	15.5	0.60
1990	6.0	1.3	15.5	0.60
1991	5.0	1.3	15.5	0.10
1994	5.0	1.3	15.5	0.10

Playing the game

EPA requirements pose a challenge because PM and NOx sit on opposite ends of a seesaw – as one goes down, the other goes up. For example, one way to lower NOx is to retard injection timing. This lowers combustion temperatures and inhibits NOx production. However, lower combustion temperatures don't burn fuel as efficiently, and PM emissions increase.

Since approximately one-third of PM emissions are byproducts of fuel sulfur, a quick and painless way (at least for engine builders) to reduce PM emissions is to use low-sulfur fuel. Current diesel fuel sulfur levels in the U.S. are a little less than .3%. If pending legislation is approved, fuel with a maximum of .05% sulfur will be the rule, nationwide, by late in 1993.

Diesel engine manufacturers would like to use low-sulfur fuel now, to certify their engines' emission levels with EPA, and it looks like they'll be allowed to. "We're in rulemaking now," says John Anderson, senior EPA program manager. "We expect to be finished soon. Low-sulfur fuel will probably come about, despite opposition from some smaller refineries and distributors, who say they can't afford the equipment investment. It is our intention to allow engine makers to use low-sulfur fuel to certify for 1991."

The good news is, even without low-sulfur fuel, most of the engines available today will continue to be offered through 1993, with relatively minor modifications.

"Essentially, the engines we're offering in 1990 will be available in 1991," says John Piasecki, assistant division manager, product development, Caterpillar Engine Div., Peoria, Ill., "with the possible exception of the 3208, which is being phased-out."

Even nonconformance with 1991 emissions standards may not prohibit the sale of a given engine, since EPA intends to permit:

- payment of nonconformance penalties, unless an engine is exceptionally dirty;
- emissions averaging – looking at the average emission levels of all of a company's engines. If the average meets the standard, individual models that don't measure up could continue to be sold. The average could also include engines using cleaner-burning alternative fuels;
- emission credit trading – like averaging, but between specific engine models. Credits earned by an engine that beats the standards are traded to one that can't meet them;
- emission credit banking – storing credits earned during the years a particular engine beat the existing standards, and applying them to the same engine in order to keep selling it in years when it can no longer meet the standards. This, according to Cat's Piasecki, is what may enable the company to continue to offer the 3208, mostly to the RV market, in 1991.

"We need this kind of flexibility," says Dave Merrion, senior vice president-engineering for Detroit Diesel Corp., Detroit, Mich. "If we can't have it, and if we can't use low-sulfur fuel to certify, we may lose a couple of engines in '91."

'91 engine changes

Generally, hardware changes to look for in '91 include expanded use of air-to-air aftercooling and various improvements in turbos, combustion chambers and pistons. In many cases, injection pressures will be increased.

"Our injection pressures will be up about 10%," comments Jeff Jones, director of automotive support, Cummins Engine Co., Columbus, Ind. "And we'll continue to offer mechanical and PACE electronic injection systems. We'll also introduce a new, electronically-controlled, unit injection system, called ECI, in mid-1990.

"Look for modest horsepower increases, pretty much throughout the line," adds Jones. "Our goal has been to meet the standards while improving performance." Although there's no official word, OEMs indicate that Cummins will abandon its air-to-water, Optimized Aftercooling setup in favor of air-to-air.

Tighter and more durable piston rings, valve guides and turbocharger seals also will be evident in 1991, because slashing consumption of engine oil is another way to reduce PM emissions. Tighter-top-land and higher-top-ring configurations can boost oil control while reducing upper-piston-to-cylinder dead space, where unburned fuel likes to hide.

"We're going to low-crevice-volume (LCV) pistons on our 3406 models," says Cat's Piasecki, "along with a newly-designed fuel cam to reduce PM emissions."

Cat's general approach, he says, has been to increase injection and cylinder pressures for some ratings, and to improve breathability throughout the line. "The electronically-controlled, unit-injected 3176 requires very little modification," he notes. "A few minor changes to electronic fuel maps, turbos and injector nozzles, and we're ready."

Cat's 3176 and 3406 engines both will benefit from lower-inertia turbochargers, which provide more boost at lower rpm. Two new ratings – 350 hp for the 3176, and 460 hp for the 3406B PEEC (Programmable Electronic Engine Control) – are tentatively scheduled.

"Our Series 60, four-stroke engines will get higher top-ring pistons," says DDC's Merrion. "Apart from that, they'll require very little modification, thanks to our DDEC (Detroit Diesel Electronic Control) system. Operators may even see a slight increase in fuel economy in the 12.7-liter engine which, by the way, we'll probably offer in new 425-hp and 450-hp versions.

"The two-stroke engines also will get higher top piston rings," he continues, "along with some turbo-tuning, and higher compression ratios and injection pressures. Also, DDEC will be standard on 71 and 92 Series engines. Unlike the Series 60 engines, however, the two-strokes will suffer a small drop in fuel economy as a result of the changes."

Meanwhile at Mack, the venerable E6 engine will be retired for '91, and the E7, fitted with electronically-controlled injection timing, will be offered in horsepower ratings of 250, 300, 350 and 400. "We're moving the E7's top rings higher," says Frank Pekar, Mack's director of powertrain engineering, "as well as going to lower-inertia turbos, new injector nozzles and 10% higher injection pressures. Most importantly, we want to maintain driveability. We want the changes to be as transparent as possible."

"We're doing many of the things that have become standard in the industry," says Bob Turney, executive engineer, Ford's Diesel Engineering Div., Troy, Mich. "We've modified the fuel-delivery profile, retarded injection timing a bit, and offset that with higher compression ratios and injection pressures. We've also gone to pistons with reentrant chambers, and we're paying lots of attention to oil consumption control."

According to Turney, Ford's 7.8-liter engine will be available in all current ratings, from 170 hp to 270 hp, with the addition of a 2000-rpm, Econo-Torque 215-hp version. Thanks to reductions in rated rpm, fuel economy is not expected to suffer.

For '91, Ford will not use electronic controls, but still will be able to certify its engines on .2%-sulfur fuel – a requirement for sale of its engines in California.

Traps and more in '94

If any engines are discontinued (for domestic production or importation), it most likely will be in 1994 because: extensive re-engineering required for compliance may not be cost-effective; a progressive increase in nonconformance penalties could be intolerable; closely-competitive models may require less-costly exhaust after-treatment devices and/or prove substantially more fuel-efficient.

Based on current technology, it appears that all diesels produced in 1994 will need electronic injection controls and some form of exhaust after-treatment to trap or alter PM emissions.

Effectively trapping soot is easy. But once it's trapped, it's got to be disposed of. Otherwise, it will clog the trap and shut the engine down.

One feasible after-treatment option for 1994 is a simple soot trap, resembling a conventional muffler, that relies solely upon exhaust heat to periodically or continuously destroy the particulate matter it collects. Akin to a self-cleaning oven, this type of trap uses a catalytically-coated filter medium to reduce the temperature required for oxidizing soot. Engineers refer to the self-cleaning process as regeneration.

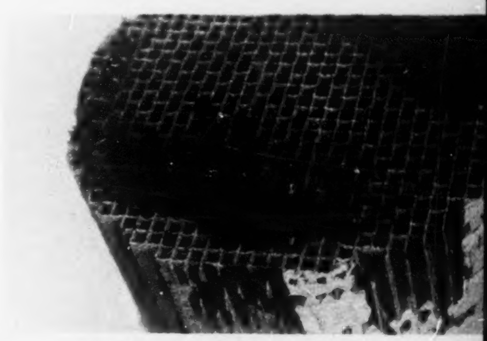
Low-sulfur fuel must be used with catalytic traps, because the traps can increase the conversion of fuel sulfur to sulfate particulate. In turn, the rate of sulfate build-up within catalyzed traps would increase and hinder regeneration.

Predictably, catalytic traps are best-suited to over-the-road applications where reasonably high exhaust temperatures are likely to be maintained. They're literally not so hot for short hauls where exhaust temperatures tend to vary. Ultimately, the solution by 1994 may be a method of making engines run hotter during periodic regeneration.

Engines could be switched, for example, from aftercooled to non-aftercooled operation to help increase exhaust temperature during trap regeneration. An aftercooler bypass system is already in use on Volvo 7- and 12-liter engines in the U.S. to avoid overcooling while going downhill, and to reduce white smoke at idle in cold ambients.

A threat is posed by the tendency of metallic ash from engine oil to

Continued



Particulate trap substrate, plugged by soot and metallic ash. For traps to work, low-sulfur fuel, improved oil control and low-ash oil formulations will be necessary.

coat the inside of catalytic traps, and refuse to be purged during regeneration. As a result, traps may become partially plugged with metallic ash within 100,000 miles of operation. For that reason, diesel engine oils will be reformulated in the 1990s to reduce the content of ash-forming additives. This could prove tricky, because some types of ash have a lubrication quality that helps to reduce bore polishing in certain engines.

A more complex soot trap, without a catalyst, is another option for '94 exhaust after-treatment. This is not dependent on exhaust heat for regeneration, but on additional heat from in-trap fuel combustion, or from an electrical heat source. During regeneration, exhaust is bypassed around the trap to prevent overheating.

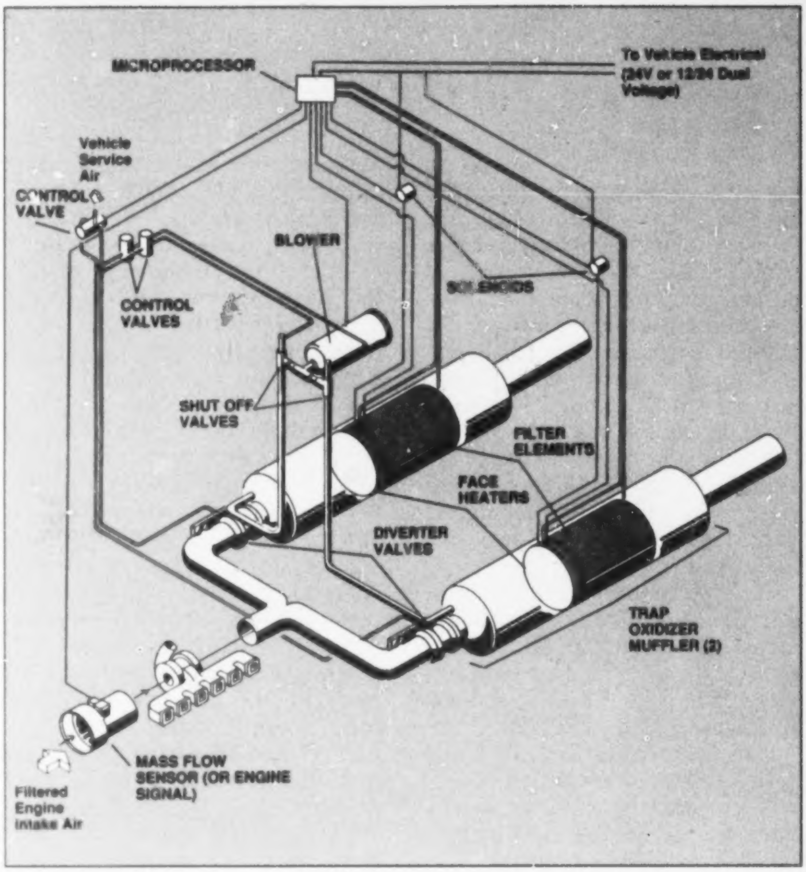
An electrically-heated, regenerative trap, developed by Donaldson Co., Minneapolis, Minn., is to be tested on 400 buses in New York City next year. By 1994, there should be plenty of useful data on the trap's performance.

Again, low-sulfur fuel is a prerequisite to the use of these noncatalytic, regenerative traps, because they filter-out 90% or more of the carbon soot but permit most sulfur-derived particulates to pass.

The least costly and most reliable option may prove to be a flow-through catalytic converter, like the ones used on the 94 Smokeless Diesel prototype, recently demonstrated by Navistar International, Chicago, Ill.

The Smokeless Diesel is based on a DT 466, 210-hp, in-line six. Ultra-high injection pressures, a reentrant chamber atop each piston, and – you guessed it – low-sulfur fuel, allowed Navistar engineers to route the exhaust through a pair of relatively simple catalytic converters.

Thus arranged, the prototype engine was able to beat 1994 emission standards for heavy-duty diesel engines, as well as those for heavy-duty methanol engines. The only remaining hurdle is durability. EPA says the converter must be capable of going 150,000 miles without a failure. So far, durability has only been demonstrated to 50,000 miles.


MICROPROCESSOR
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DIVERTER VALVES
TRAP OXIDIZER MUFFLER (2)
MASS FLOW SENSOR (OR ENGINE SIGNAL)
Filtered Engine Intake Air

Regenerative, noncatalytic particulate trap by Donaldson is actually two traps that take turns – one gathers particulates while the other incinerates particulates already collected.

The urban bus and alternative fuels

For 1991, EPA insists that diesels in urban buses – perceived as mobile smoke stacks by the public – must comply with 1994 emissions standards for heavy trucks. Problem is, the exhaust after-treatment devices needed for 1994 probably won't be ready in 1991. If they are not, any urban buses sold in 1991 through 1993 will have to be powered by cleaner, alternative-fuel engines.

Methanol, or wood alcohol, is the most likely contender, by virtue of its low output of particulate matter during combustion. But there are other considerations. First, methanol doesn't ignite readily under compression. So, to burn the stuff in a diesel engine, you've got to either add an ignition system or treat the methanol with an ignition improver – either option driving up costs.

Then there's the matter of energy content. Since methanol offers roughly half the Btu's of diesel, operators will have to carry twice as much fuel – on board, which would reduce passenger-carrying capacity, and in storage tanks, which must be modified to accept this more corrosive fuel.

Unlike diesel fuel, methanol is far from a lubricant. Therefore, it's tougher on rings, pistons and liners, unless a lubricant is added.

Finally, there are safety concerns. One is that methanol burns with a pale blue flame that's all but invisible in daylight, making a methanol fire hard to spot. Another is that methanol produces formaldehyde – a suspected carcinogen – when it burns. Finally, methanol can be fatally toxic, yet dissolves completely in water. In the event of an underground storage tank leak, methanol would be difficult to detect in ground water.

Compressed natural gas (CNG) and liquefied petroleum gas (LPG) are other possible, cleaner-burning alternatives. And they have long been employed by utility fleets using commercially-available gasoline-engine retrofit kits.

Ethanol, or ethyl alcohol, is yet another option. And hybrid systems, involving various mixtures of liquid and gaseous fuels, are also being tested.

But ethanol, CNG, LPG and hybrids all suffer, to some degree, from the same disadvantages as methanol, compared with diesel—less energy output and/or special handling and safety considerations.

Which is not to say that these problems couldn't be overcome, or at least dealt with for the sake of the environment. But, since it's expected that diesel-powered urban buses will return as particulate-control technology ripens, there's little financial incentive to iron out alternative fuel wrinkles. Operators of urban bus fleets aren't anxious to spend small fortunes for extra-cost on-board tanks and dispensing facilities required to handle special fuels on an interim basis.

Based on an American Public Transit Association survey, sales of urban buses may be almost nonexistent between 1991 and 1993. Many urban bus fleetmen say they will stockpile new equipment in 1990 and/or keep older equipment running until 1994.

The irony here is that the older the bus, the more smoke it's likely to produce. On that basis, EPA's plans for regulating urban buses may prove significantly counterproductive, not just ineffective.

Regardless of domestic sales projections that threaten to approach zero, engine makers are geared up to provide some alternative-fueled diesels in 1991. Detroit Diesel will offer V-6 Series 92 and in-line Series 671 engines burning 100% methanol. L-10 diesels from Cummins will offer a choice of CNG or methanol with an additive package. And Caterpillar is testing a 3406B methanol engine.

Yet to be fully determined is the impact of a congressionally-sponsored, multi-million-dollar program to promote alternative- and dual-fueled engines in vehicles ranging from cars to heavy-duty trucks and buses.

In part, this program authorizes the U.S. Department of Energy (DOE) to work with states in developing demonstration and evaluation programs.

In addition, local mandates for fleet use of alternative fuels are likely to increase, due to ever-increasing public concern about health risks associated with emissions-related smog. California's South Coast Air Quality Management District already is moving toward implementation of its Fleet Clean Fuels Rule. By 1993, the rule proposes that new engines purchased by fleets of 15 or more vehicles must be capable of operating on alternative fuels.

For more information:

SAE Technical Papers available from Society of Automotive Engineers, 400 Commonwealth Dr., Warrendale, Pa. 15096.

- *Ecklund, Nichols and S. and N. Sefer. "Options for the Introduction of Methanol as a Transportation Fuel." SAE International Fuels and Lubricants Meeting and Exposition, Toronto, Ontario, Nov. 2-5, 1987.*

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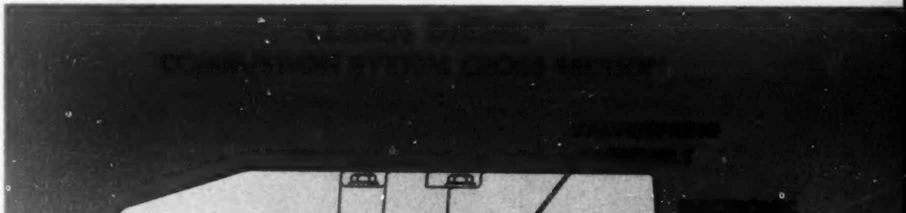
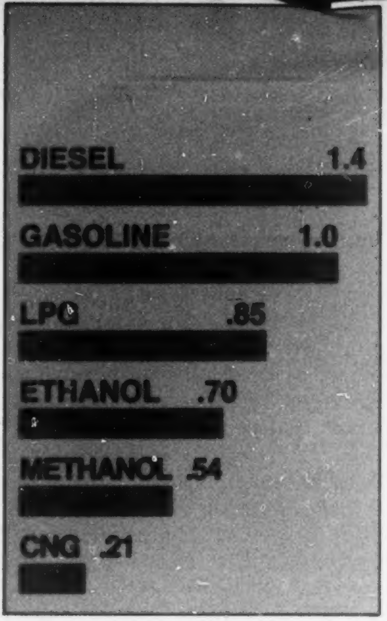

COMBUSTION SYSTEM CROSS-SECTION
ROCKER ARM/ PUSH ROD ASSEMBLY
HIGH TOP RING FOR IMPROVED COMBUSTION EFFICIENCY
"GOLF BALL" COMBUSTION CHAMBER
PISTON

Navistar's planned, production Smokeless Diesel—based on the DT 466 @ 210 hp—uses ultra-high-pressure, electronically-controlled unit injectors. Note piston re-entrant chamber and location of upper rings. A single, flow-through catalytic converter, say Navistar officials, will allow the engine to beat 1994 emissions regulations.



Approximate energy content index for various fuels. Gasoline is baseline at 1.0. Alternative fuels, compared with diesel or gasoline, have less energy content and deliver fewer miles per gallon.

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- *Baranescu. "Influence of Fuel Sulfur on Diesel Particulate Emissions." SAE Future Transportation Technology Conference and Exposition, San Francisco, Calif., Aug. 8-11, 1988.*
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- *Bol and King. "Methanol Powered Transit Buses In Canadian Fleet Services." Sypher: Mueller International Inc., Ottawa, Canada.*
- *"Milestone." Sypher: Muller International Inc., Ottawa, Canada.*
- *"Regulation of Fuels and Fuel Additives; Fuel Quality Regulations for Highway Diesel Fuel Sold in 1993 and Later Calendar Years." American Trucking Associations, 2200 Mill Rd., Arlington, Va. 22314.*
- *"Catching our Breath. Next Step for Reducing Urban Ozone." Congress of the United States, Office of Technology Assessment, Washington, D.C. 20510-8025.*
- *"A Side-by-Side Comparison of Studies Concerning Alternative Vehicle Fuels." American Gas Assn., 1515 Wilson Blvd., Arlington, Va. 22209.*
- *"Air Quality Benefits of Alternative Fuels." Office of Mobile Sources, Office of Air and Radiation, U.S. Environmental Protection Agency, Washington, D.C. 20460.* □

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Detroit Diesel Corp
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Ford Motor Co
Truck Operations
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Circle 403 on Reply Card

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PO Box 3849 Portland OR 97208
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Nissan Diesel America Inc
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Scania Truck Div
Orange CT 06477
Circle 412 on Reply Card

Volvo White
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Circle 413 on Reply Card

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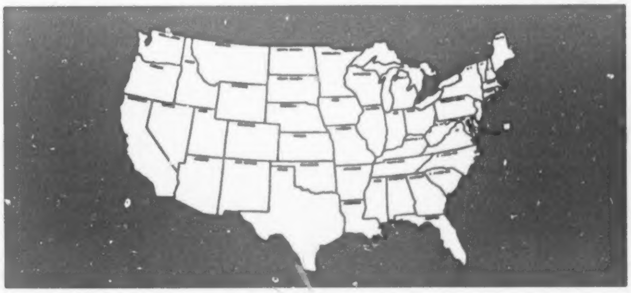

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Thomas & Betts

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ON THE COVER

Going for the record! An application has been filed with the Guinness Book of World Records for recognition of this vehicle traveling interstate as: the longest unit, the heaviest and largest payload; and movement of a GCW in excess of 700,000 lb the longest distance.

It's 262-ft long, 18-ft wide, 21-ft high, and over 700,000 lb. The autoclave, a pressure vessel used to process gold from ore, was moved 275 miles from Salt Lake City to Carlin, Nev. The JXS heavy hauler, of modular construction, was built by Jake's International, Las Vegas.

It included a Peterbilt tractor with a 700-hp Cummins engine and an Allison automatic transmission. The "pusher" tractor has a 15-ft push bar of 6-in. diameter steel tubing. It carried 25,000 lb of ballast for traction at its drive wheels. □

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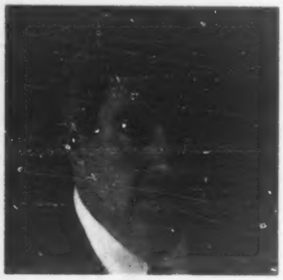
THE BUSINESS SIDE



'Big guys have 80% of good LTL freight'

By **PARRY DESMOND** Executive Editor 215-964-4529

Someone once defined maturity as "not the absence of conflict, but knowing how to cope with it." Perhaps that definition best describes the perspective of the less-than-truckload (LTL) market presented by Richard Holt, a vice president-senior trucking analyst, based in First Wheat Securities' Philadelphia offices.

The LTL sector is now a mature market because the national fleets garnered most of the good traffic in recent years by offering high quality service. That makes service "a commodity, and pricing becomes a key variable," claimed Holt at a seminar conducted in March by Economic and Planning Inc. (ECAP) of New York City.

In the LTL market between 1980 and 1986, added Holt, "the weak got weaker and the strong got stronger." That happened because the six major LTL fleets—Yellow, Consolidated Freightways, Roadway, Overnite, Carolina and ABF—significantly increased their volume, allowing them to lower unit costs.

With the possible exception of ABF, which has tremendous debt service as the result of a leveraged buyout several years ago, the big guys are "in good financial shape," observed Holt. Their profit position could be attributed to the majors' discounting strategy based on costs falling faster than the reduced rates, said Holt.

But by 1987, most of the attractive freight had been captured by the major fleets who now control about 80% of the LTL market, said Holt. And the other LTL carriers have to survive with the marginal traffic that's left.

Consolidation completed

Since the consolidation process is essentially completed, opportunities to cut costs have diminished. In fact, noted Holt, costs have been creeping back up for the past three years, while discounting continued.

As a result, "profits have declined dramatically," said Holt.

To boost profits, two rate increases were published this year. January's increase was "good, but it's being discounted away," he said. Discounting "has to stop," asserted Holt. The recent, 5% second hike "was the worst thing," claims Holt. That's because shippers "will demand a 52% discount, completely negating" the rate increase.

And higher rates will open the door to more competition from the railroads and consolidators. Holt was more optimistic about the regional LTL marketplace. He said the regional fleets are still "immature" because their sector offers great opportunity for economies of scale via consolidation and growth.

Truckload market

Holt took issue with many securities analysts who recently have pooh-poohed TL stocks because their growth rates have slowed down to 20%, after several years of 35% to 40% growth.

He disagreed with Wall Street's second thoughts about J.B. Hunt, based in Lowell, Ark. Holt also pointed out that Hunt's earnings are *only* 8%, and its operating ratio is still under 90%, while most TL carriers are barely surviving.

As a group, successful TL fleets like Hunt have snared 15% of the $15 billion market, contends Holt. They are core carriers who "get premium prices for premium service." □

Forecast of U.S. economic sectors that have a key impact on trucking (percent changes)

	1988	1989	1990F	1991F	1992F	1993F	1994F	1995F
Grain Production	-25.4	35.2	6.8	5.1	3.7	3.5	3.4	3.3
Retail Trade	1.9	1.9	1.3	2.0	2.7	2.6	2.5	2.5
Wholesale Trade	4.7	2.0	0.7	2.6	3.2	4.1	3.4	3.2
Manufacturing	6.1	3.7	-0.1	2.6	3.4	4.2	3.3	3.0
Mining	2.9	-1.3	0.7	1.5	2.5	1.9	1.7	1.7
Construction	1.4	-1.3	-1.8	3.9	4.4	2.7	1.6	1.3
Lumbering	-3.5	-1.0	1.3	2.4	2.3	1.5	1.2	1.0
Oil/Gas Drilling	0.0	-7.2	10.0	7.0	7.3	7.0	7.0	7.0
Motor Carriers	5.4	1.1	-2.4	2.9	3.5	4.4	3.3	3.2

This data was collected by ECAP (Economic Planning & Consulting Inc.) of New York City. Other sources accessed for forecast information include: The Federal Reserve Board, the U.S. Department of Commerce, and the U.S. Department of Agriculture.

HOW DO YOU SPELL RELIEF? L-E-

Tax law changes, lean-spirited corporations' desire to dump trucking assets, seemingly no-win environmental rules, testy hiring requirements for a shrinking pool of candidates. Leasing firms say they can relieve those headaches. Read on to learn about the time-tested treatments leasing companies say will cure many of trucking's ills.

By **PARRY DESMOND**
Executive Editor

The solution isn't new, but some of the problems are: there are tax law changes that truckers are just beginning to get a handle on; lean-spirited corporations that insist transportation managers take trucking assets off the books; environmental rules that seem to make maintenance a no-win situation; and testy hiring requirements that exacerbate the problem of coping with a shrinking pool of qualified candidates for driver and mechanic positions.

The list of trucking's headaches appears almost endless. But leasing companies claim they can provide relief for many of those headaches.

Ownership is "a luxury"

"Pride of ownership is crap. It's a luxury. It's the old way of doing business," asserts Larry Miller, president of Ruan Transportation Management Systems, headquartered in Des Moines, Ia.

"There's no good reason for a large corporation to have trucks on its balance sheet," contends Ed Blickstein, executive vice president of Lend Lease Trucks, headquartered in Minneapolis.

Since large corporations' focus is on capital and resources that are critical to their business, continues Blickstein, "they're using the leasing option to reduce debt and unload assets that aren't critical to their operation. The issue is return on assets," he concludes, because the current tax law encourages the purchase of assets that appreciate in value and the leasing of equipment that depreciates.

"I can't have my operating capital tied up in depreciating equipment," says Duane Long, president of Long Transportation Services, which hauls pharmaceuticals, medical equipment and electronic products cross-country. The Raleigh, N.C.-based, for-hire carrier has full-service-leased 15 Kenworths from PacLease.

Revenue growth parallels GNP

Although many carriers have hopped on the leasing bandwagon, the industry's recent revenue growth has only paralleled the Gross National Product, claims Gordon Bowker, a principal in Bowker, Brown & Co., the Miami-based consultancy that specializes in truck leasing.

The sidebar entitled "Significant Market Consolidation," shows that the significant revenue gains enjoyed by major lessors in the 1980s essentially can be attributed to mergers and acquisitions.

And Bruce Bone, executive director of the Amtralease, a network of independent lessors based in Chesterfield, Mo., estimates that leasing and rentals have increased from 18%-20% of the truck market in the last decade to in excess of 30% today. But profits have been flat. And when profits average 4%, Bone claims, many leasing

A-S-E

companies won't survive when the economy hits a down cycle.

Bearing in mind that leasing never was a high-margin business, Bowker attributes a major part of the industry's profit problems to Ryder's low rates.

However, Bowker expects Ryder to more than double its dominant market share in 1990, compared to 1980. And with revenues projected to reach $3.2 million this year, Ryder will continue to be the market leader. Thus, claims Bowker, "as Ryder goes, so goes the market."

Cost-cuts via quality programs

Although some lessors hope the rates have hit bottom, Mike Galardi of Temple, Barker & Sloane, the Lexington, Mass.-based consultancy which works with the Truck Rental and Leasing Association, suspects many leasing companies can reduce costs further by establishing formal quality improvement programs.

Galardi said leasing customers which have formal quality programs may pressure the lessors to establish the systems. He noted that only Ruan is fully involved in the quality movement, while some parts of the Ryder System have adopted formal quality processes, and a few regional lessors "are playing with" the concept.

Leasing companies that don't soon start working on a formal quality process in the 1990s "won't be around long," claims Ruan's Miller.

Galardi also noted that competition will force leasing companies to become "more financially astute" when accessing capital. He thinks they'll have to consider sources outside the U.S.

And Galardi "has a gut feeling" that there will be additional consolidation in the industry.

Although many lessors aren't wildly optimistic about leasing's revenue and profit projections, GE Capital's recent accomplishments and expectations can justify uncorking some champagne.

GE Capital grows 800%

In 1982, General Electric Capital only had a 5% share of trucking's net leasing market, according to Jim McKay, manager of marketing of the Commercial Financing operation.

Net leasing only covers the financing of the equipment, the maintenance, taxes or insurance. A finance lease – also called a capital lease (as described in the companion article, A Layman's Lexicon of Leasing Language) – is the primary type of net lease offered in the truck marketplace.

Since 1982, the Stamford, Conn.-based net lessor's business has grown about 800%, McKay claims. He estimates that "at least 20%" of that growth has come, unsolicited, from existent customers. Last year, GE's net leasing of truck equipment increased more than 16% compared to 1988.

TRAC leasing

Until recently, TRAC leasing made up about 95% of GE's net leasing market.

TRACs get their name from the terminal rental adjustment clause, which was validated as a true lease in 1984. The TRAC provision permits or requires an adjustment at the end of the lease period when the unit is sold by the lessor. Since a TRAC lessee is willing to absorb part of the projected residual value risk, the monthly fee is lower than it would be with a standard true lease.

TRAC leases had been particularly popular with for-hire carriers because the guaranteed residuals

Continued

minimized ownership risk at a time when sophisticated technology and increased size and weight options were newly available. And during the 1984-88 period, trucks' values were truly declining because of low inflation, said McKay.

As a result, many for-hire carriers – not traditional lessees – were TRAC-leasing equipment until recently. Carriers continued TRAC-leasing even after the 1986 Tax Reform Act repealed the investment tax credit (ITC) and changed depreciation schedules.

Although lessors absorbed some of the losses created by federal tax reform legislation in 1986, said GE's McKay, lease rates had to increase after the ITC was repealed.

While credit-worthy common carriers had been paying net lease rates that were two or three points below the prime rate, the loss of ITCs has resulted in rates that are at the prime rate or even higher, says Bowker.

Bowker, the consultant, noted that ITC carry-forwards are running out, creating a "fairly substantial" liability for the 1989 tax year.

Today, only about 20% of GE's net leases are TRACs, says McKay. Standard true leases – sometimes called fair market value leases – are more appealing because ownership risks have declined. That's because inflation is starting to creep up again, and lessors have a higher level of confidence after several years' use of new, high-tech power equipment and bigger trailers, explains McKay.

Another reason TRACs are becoming less popular is because net lessors can make more profit on fair market value leases which have lower payments, says Gary Snyder, president of Alpha Financial Services, Minneapolis.

Snyder also noted that lower rates are available to lessees who get higher projected residual values because their equipment spec's include goodies like big engines and air-ride suspensions, thus enhancing their marketability in the used truck market.

Truck dealers find TRAC leases appealing because of current low interest rates, says Gordon Hellowell, Mack's manager of leasing. Since most dealers take advantage of all the available depreciation, explains Hellowell, they "sell" the truck to a bank, which gets the unit off the dealer's books. Then the bank TRAC-leases the truck back to the dealer's leasing company. And then the dealer's leasing operation can use either a finance or full-service lease to market the truck.

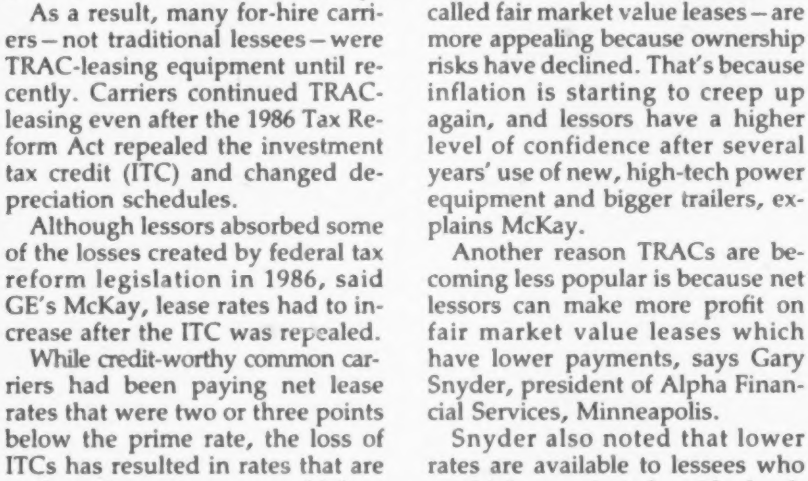
TRACs are less attractive to carriers, added Hellowell. That's because the soft used-truck market forces the lessee to prefer a lower projected residual value in order to minimize risk at the end of the lease term. So, although a lessor might promote a 25% guaranteed residual value – $15,000 – on a 4-year, TRAC lease of a $60,000 tractor, most potential lessees would prefer a 20% – $12,000 – guaranteed residual value.

John Badey, treasurer, Strick Financial Services, Fairless Hills, Pa., has seen a shift away from a finance lease – such as a TRAC – to outright purchasing of trailers. In addition to the loss of the ITC, Badey suspects the shift to buying is a result of more money available at comparatively low interest rates despite an inflation rate that's begun to creep up.

AMT Tax

Another way the 1986 Tax Reform Act affected leasing was its provision for the alternative minimum tax (AMT). (For a detailed explanation of the AMT tax, see A Layman's Lexicon of Leasing Language.)

The AMT has just begun to have



Having mechanics travel in a mobile service unit to a lessee's facility to do preventive maintenance work is a marketing strategy which Transamerica Trailer Services, Piscataway, N.J., uses to attract and keep customers.

Significant market consolidation

There was significant turmoil in the truck leasing marketplace in the 1980s. Hertz Penske Truck Leasing, Reading, Pa., purchased the full-service leasing division of Leaseway Transportation Corp., Cleveland, in 1986. The acquisition, for an undisclosed sum, included Leaseway's 12,000 vehicles and 144 sales and service locations, plus four leasing subsidiaries.

In 1987, GE Capital, Stamford, Conn., acquired Gelco Corp., based in Eden Prairie, Minn. The $250 million cash transaction provided GE, one of the nation's largest diversified financial services, with entry into full-service truck leasing.

After Penske Corp. bought out Hertz' interest in the truck leasing company in 1988, The GE Gelco and Penske leasing operations were combined.

Following a failed merger attempt in 1988, **Lend Lease Trucks Inc.**, Minneapolis, and **Whiteford NationaLease Div.** of Whiteford Transport Systems, South Bend, Ind., merged last year. The new operation is the nation's fourth largest truck leasing and rental corporation with over 8,500 vehicles, 124 locations and combined annual revenues in excess of $225 million.

Despite those mergers, Miami-based **Ryder Systems** continues to be the nation's largest full-service lessor. In fact, it doubled its share of the market in the 1980s. Acquisitions by Ryder in the last decade included **Saunders System Inc.** of Birmingham, Ala., in a $100 million friendly takeover in 1986, and in 1989, **Atlas Trucking Inc.** of Grand Rapids, Mich., whose 3,000 vehicles at 23 service centers generated $44 million in revenues last year.

The figures in the chart below, provided by Bowker, Brown & Co., Miami, spell out the shifts among the major lessors between 1980 and 1990. Total revenue in the truck lease-rental market grew from $7.8 billion in 1980 to $11 billion 1990. The 1980 total includes fuel program revenue.

	1980 Revenue (Millions)	1980 Market Share	1990 Projected Revenues (Millions)	1990 Projected Market Share
Ryder	$1,125	14.4%	$3,200	29.9%
U-Haul	$400	5.1%	$600	5.5%
Leaseway	$275	3.5%	(Now part of Penske)	
Hertz	$223	2.9%	(Now part of Penske)	
Saunders	$168	2.2%	(Now part of Ryder)	
Rollins	$113	1.5%	$340	3.1%
LendLease	$80	1.0%	$230 (Merged w/Whiteford)	2.1%

an impact on leasing because it's difficult to project, claims McKay. Thus, carriers "usually don't realize they're in an AMT situation until after the fact," says McKay.

Companies that have been expanding their physical facilities are more likely to get into an AMT situation.

The formula used to determine the AMT is expected to be simplified because it's so complicated.

The AMT also can cancel an apparent tax advantage for purchasing—namely, the shortening of the time frame when companies can recoup equipment investments.

Perceptions

Although leasing continues to grow and the idea of leasing "doesn't scare people any more," claims Amtralease's Bone, leasing still has some image problems.

Doug Slack, senior vice president sales and marketing of Ryder System's Commercial Services, made the following observations, based on a market research study for Ryder on potential customers' perceptions of leasing:

- Many potential clients think a major lessor doesn't want to lease trucks to a small operation. However, like most lessors, Ryder's typical customer leases just three or four trucks.
- Although leasing rates are 20% to 30% lower than pre-1980 rates, many fleetmen still perceive leasing as more expensive than ownership. That's because, adds Slack, the typical trucker's leasing perspective often is limited to acquisition of a truck. They don't consider the economies of scale and management expertise that a major lessor can offer a small operator who probably couldn't otherwise afford them.
- Many truckers think they will lose control of their equipment costs when they have a full-service lease. But Slack points out that cost data a lessor can provide usually is superior to what has been or could be generated in-house by the lessee. In fact, the lessee will have more control of the trucking operation because the better information provides greater cost-predictability and reliability, resulting in improved spec'ing in the future.
- Potential clients often perceive a lease vs. purchase solely as an asset decision. But a lease creates opportunities for savings most fleets can't take advantage of because they don't have the purchasing leverage.—e.g. lower insurance, parts and fuel costs.
- Sometimes a fleet is reluctant to sign a full-service lease because the drivers may get upset about the quality of maintenance performed by a third party, the lessor. However, many lessors' shops are better-managed and their mechanics are better trained than many fleets' shops.

Despite those image problems, leasing provides a plethora of protective options that carriers find more attractive than ever. That's because trucking has become a hassle, particularly for private fleets

Continued

These two beverage trucks are full-service leased by Rollins. Leasing their vehicles allows Buffalo Rock, Birmingham, Ala., the country's largest privately-owned Pepsi-Cola bottler, to focus on its primary business.

which historically have been the leasing industry's primary customer-base.

And because they provide numerous support services to respond to those challenges, many lessors are beginning to recognize that they're in the service business, not just the truck business.

In addition to finding and keeping qualified drivers and mechanics, fleets now have to contend with new environmental regulations covering underground storage tanks, and disposal of used oil, solvent, batteries and tires. Instead of coping with those new complications on their own, many companies are shutting down their private fleets and letting lessors worry about those problems.

State and federal regulations concerning underground storage tanks (USTs) have created a "good-news, bad-news" situation, according to Jim Feenstra, marketing manager of Penske Trucking, a GE subsidiary.

Feenstra says UST regulations are "positive for leasing," even though Penske expects to fork out about $6 million to upgrade its own UST systems.

Many private fleets become interested in full-service leasing when they consider the option of spending as much as $250,000 to dig up just one old tank, remediate the surrounding contaminated area and install a new UST system, explains Feenstra.

New underground storage tank regulations have generated new revenues for Rollins Leasing, according to Neil Vonnahme, vice president of sales. The opportunity to buy fuel "at our cost," says Vonnahme, has attracted new full service lease customers. And some established clients have shut down their fueling operations and signed up for the fuel program, too.

To attract and retain clients, leasing companies also must start responding to customers' "informational services," says Vonnahme. Training tools would be especially helpful to small lessees that don't have expertise in government regulations related to the environment, explained Vonnahme.

Recently, the Wilmington, Del.-based firm introduced a training program to help lessees' drivers pass the federal Commercial Drivers License (CDL) test. Rollins also is considering developing a training program on how to comply with new DOT drug testing regulations.

And TIP (Transportation International Pool), a trailer lessor headquartered in Bala Cynwyd, Pa., recently established a program to help clients combat drivers' drug and alcohol abuse.

Based on information gleaned from focus groups made up of drivers and dispatchers, research determined that drug abuse—including inappropriate use of legally prescribed pills like Valium—often is a symptom of stress. That's why participants in TIP's "Steer Clear" program receive printed training materials designed to help improve drivers combat stress, as well as avoid substance abuse, by improving their lifestyles, according to a TIP spokesperson.

Meeting informational needs is not limited to full service lessors' marketing strategy. PHH Fleet America, a net lessor, helps clients spec equipment and set up contract maintenance programs, says Dave Zuidema, of PHH's product management department in Hunt Valley, Md.

Spec'ing as a marketing tool

Since clients often perceive trailers as a commodity, AJF Leasing, St. Louis, Mo., decided about five years ago to use equipment spec'ing as a marketing tool in order to focus on the top end of the market, according to Steve Havens, division manager.

As a result of that strategy, AJF has added numerous Fortune 500 customers to its customer-base with high-grade spec'ing. About 50% of its trailers include top-of-the-line items such as air-ride suspensions, low-profile radial tires, hardwood scuffboards, non-asbestos brake linings, reflective tape.

Chuck Lawson also uses high-grade spec'ing as a marketing tool. Lawson is president of Bright NationalLease of Dallas, an affiliate of NationalLease, an organization of independent lessors.

Litehouse Corp., a rapidly expanding salad dressing firm in Sandpoint, Id., dicovered it would cost $196,000 annually to buy, maintain and run each new power unit, and the company needed capital to upgrade and expand production facility. So, it signed a full-service lease with PacLease. The lease provided a $6,000 savings on each of four new Kenworth T600s over five-years. Since Litehouse has a shop, minor maintenance is performed there. But other service on units already owned by Litehouse, as well as the leased equipment, is done by PacLease. That arrangement resulted in a $22,000 (-28%) drop in maintenance costs.

His leasing operation spec's Class 8 tractors—particularly Peterbilts—with "lots of chrome, fancy interiors and big sleepers" because they can help lessees attract drivers.

And Rick Ciesielka, senior vice president for operations, McDonnell Douglas Truck Services, Fort Washington, Pa., noted that fleets that own and maintain a small number of units are signing full-service leases because they don't have the volume of equipment needed to attract training by major vendors. Thus, the little truckers' mechanics have less of an opportunity to learn the intricacies of the new electronic systems under the hood.

Currently, McDonnell Douglas' mechanic training program totals about two weeks annually, said Ciesielka.

Driver leasing

Every time there's a new regulation that impacts drivers, it causes fleets to consider driver leasing, says Bill Hollis, general manager of Leaseway Personnel, the nation's largest driver leasing company, headquartered in Cleveland.

Although there has been limited growth in the driver leasing field over the past five years, Hollis expects drug and CDL testing to have a positive impact.

Bob Hanley, manager of marketing and personnel for Transpersonnel, Milwaukee, expects interest in driver leasing to "snowball" as the new regulations are implemented over the next two years.

Hanley also noted that single source leasing—a lease that bundles drivers and vehicles—never took off because contract carriage "makes more sense."

He does not expect the driver shortage to be rectified "for at least five years. Our recruiting costs are going through the roof," says Hanley. "We used to just put the word out that we were looking for people and they'd come. Now we spend $600 to $1,000 to get the right person."

In the meantime, suggests Hanley, freight rates should be increased in order to offer higher wages. Prior to deregulation, he claims, "drivers used to get 30¢ a mile. Now they get 18¢ a mile and they're out on the road much longer."

More dealers interested

Truck dealerships lost a significant chunk of leasing business they once controlled, but didn't focus on to leasing companies, says Carl Sorensen, who works in the finance section the GMC Truck Division's Leasing and Fleet Department.

Major lessors captured business from dealers in recent years because they better understood leasing and didn't perceive it solely as a tool to market trucks. They also have been able to offer value-added services, such as a fuel program, that many dealers just cannot offer competitively, said Sorensen.

However, since truck dealerships' profit margins have declined in the 1980s, they now consider leasing as an opportunity that can no longer be ignored, he added.

Truck dealerships are more flexible than the major lessors because they can offer finance and full-service leases, according to Francis Cook of Ford Motor Co.'s heavy truck leasing operation.

Dealers are coping with tighter profit margins by putting more emphasis on the leasing end of the business, claims Cook.

But instead of expecting traditional sales people to also focus on leasing trucks, Ford dealers are hiring people who didn't survive post-merger consolidation when major lessors' sales staffs were consolidated, according to Dick Mooney, another Ford heavy truck leasing manager. □

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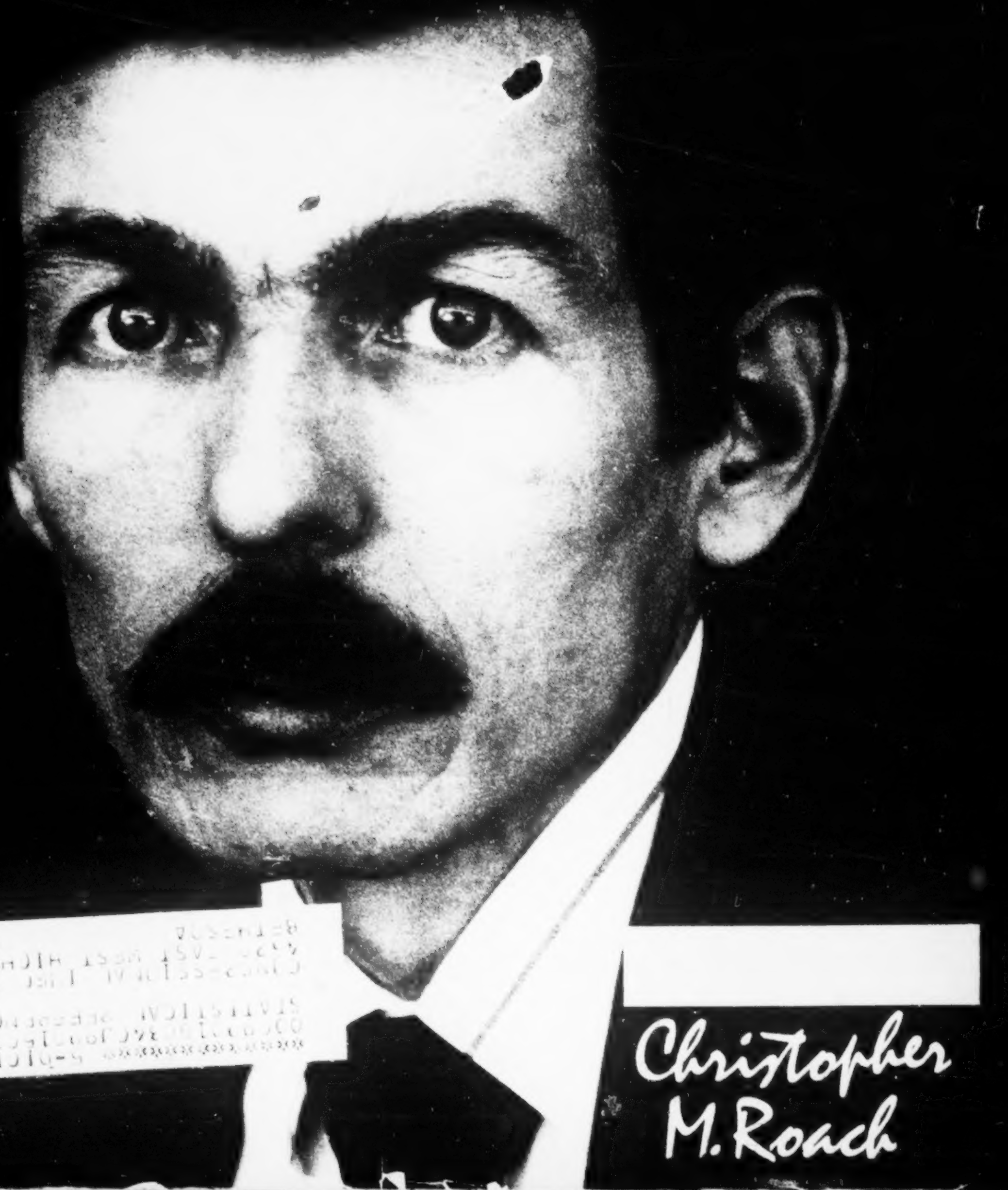

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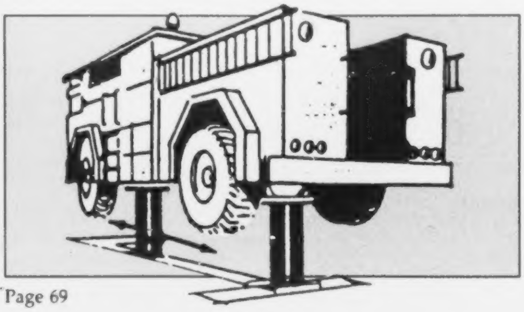

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IN THE NEXT ISSUE

The federally mandated commercial drivers license test isn't easy, but it's not impossible either.

After a dismal 40% failure rate on the written portion of the test, initially reported in California, carriers and drivers woke up to the fact that pre-test studying was essential for many drivers to pass the new CDL test.

Management support via assistance in study is helping many drivers pass the test. June's cover story will demonstrate what a carrier must and can do to help get past this potential roadblock and keep its drivers driving. In addition, it includes tips for dealing with drivers' special learning needs, outlines current legislative standing state by state and lists companies offering CDL learning tools. □

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State regs, lack of uniformity cost truckers $4 billion a year

By **EILEEN NASE**, *Senior Editor*

To support his contention that "the crazy quilt of state economic regulations and paperwork requirements is a waste of American resources we can no longer afford," Secretary of Transportation Samuel K. Skinner offered the following statistics at the National Private Truck Council's annual meeting in Chicago in April:

- 42 states continue to regulate the rates, routes, services and entry into the trucking industry.
- State regulation and lack of uniformity are imposing "between $4.1 billion and $6.2 billion a year in extra costs on truckers, and indirectly on shippers and consumers."

Skinner broke down those estimated totals and spelled out the extra costs some industries are paying annually: more then $300 million by the food industry; $19 million by the textile and apparel industries; $68 million by the paper industry; $33 million by the chemical industry; $16 million by the drug and cosmetic industries.

Skinner characterized economic deregulation and uniformity of state requirements as "provocative and controversial. They cut to the very heart of the economy..., and they must be dealt with sooner rather than later.... That is not an idle threat. Other nations view trucking as the most important component in their economic progress."

He also talked about the trucking industry's so-called "good old days," prior to the 1980 Motor Carrier Act. In reality, "the cost of empty backhauls was eating private carriers alive," he said. Their extra cost for empty backhaul mileage in 1976 "averaged about 27%."

As an example of his claim that deregulation works, Skinner noted that empty backhaul mileage of private carriers re-entering Florida fell from 58% to 10%.

Overall, Skinner estimated, federal deregulation of the airline, railroad and truck industries has saved about $40 billion a year.

He also claimed that rural communities have not been abandoned in a free market: "A few years ago, we did a survey which showed over 97% of rural shippers and receivers – those more than 25 miles from an Interstate highway – reported that overall service quality was as good as or better than before deregulation."

And "there's no foundation for the charge that economic deregulation has affected safety," asserted Skinner. He noted that the "rates of fatal accidents, fatalities and injuries involving large combination trucks have been consistently lower since 1980 than in the pre-deregulation years of 1978 and 1979. The fatal accident rate per 100 million miles driven by these trucks has fallen by one-third since that time." □

Corrected data on leasing market

A printer's gremlin sneaked into the chart that was part of the feature on leasing published on page 59 of the April issue of CCJ, creating confusion about Hertz-Penske's revenue and market share. Noted below is the corrected copy. The data, provided by Bowker, Brown & Co., Miami, spells out the shifts among the major lessors between 1980 and 1990. Total revenue in the truck lease-rental market grew from $7.8 billion in 1980 to $11 billion 1990. The 1980 total includes fuel program revenue.

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LendLease	$80	1.0%	$230 (Merged w/Whiteford)	2.1%

FHWA: States will meet April 1992 CDL deadline

From CCJ's Washington Bureau

The Commercial · Drivers' License (CDL) will go into effect by the April 1992 deadline despite some fears to the contrary, the Federal Highway Administration (FHWA) insists.

FHWA Associate Administrator Richard Landis noted recently that 10 states are issuing the licenses and are hooked into the national driver computer network (CDLIS).

A total of 27 states are also connected to the telecommunications network that will connect all the state licensing jurisdictions – AAMVANET – run by the American Association of Motor Vehicle Administrators (AAMVA).

Twenty-six more states should be issuing CDLs by the end of this year, and all states' CDL programs should be in full operation by mid-1991, well before the Spring-1992 deadline, Landis insisted.

His assurance followed release of a report by Congress' watchdog – the General Accounting Office (GAO).

The report said 13 states may not meet the deadline and, as a result, 360,000 drivers based in those states could lose their driving privileges.

However, an FHWA official noted that the GAO report was prepared when some states were looking for an extension of the deadline. Now, all states appear likely to beat the deadline. □

Percentage of drivers who passed various knowledge tests of the Commercial Driver's License Program

Here is a breakdown by state of the percentage of drivers who passed the various CDL knowledge tests, as of April 6, 1990. The data was collected by the Federal Highway Administration.
The following states had not yet begun testing: Connecticut, Delaware, Louisiana, New Mexico, South Carolina and Texas.

State	Overall	General	Air Brake	Combo Truck	Tank Truck	Hazmat	Double/ Triple	Passenger
Arizona[1,2]	NA							
California[1,2]	93%							
Colorado[3]		64%	71%	71%				
Georgia[1,2]	NA							
Illinois[1,2]	NA							
Maine[2]		89%	89%	97%	87%	86%	93%	86%
Maryland[1,2]		64%	80%	83%	85%	72%	79%	78%
Michigan[1,2]		66%	66%	69%	73%	61%	60%	61%
Minnesota[1,2]		71%	73%	73%	81%	64%	74%	63%
Mississippi[2]	76%							
Missouri[2]		78%	81%	88%	76%	76%	86%	68%
Montana[2]	88%							
Nebraska[2]	93%							
Nevada[3]		85%	92%	90%	NA	100%	100%	82%
New Hampshire[1,2]	88%							
North Dakota	44%							
Ohio[3]		84%	87%	87%	82%	73%	82%	84%
Oregon[1,2]		89%	86%	84%	92%	89%	85%	83%
South Dakota[2]	83%							
Tennessee[2]		88%	89%	91%	91%	88%	91%	87%
Utah[1,2]	91%							
Virginia[1,2]		92%	95%	96%	77%	94%	98%	97%
Washington[1,2]		80%	84%	80%	89%	NA	82%	86%
West Virginia[2]		88%	95%	93%	93%	83%	89%	94%
Wyoming	90%							

[1] – State issuing CDLs. [2] – State CDL testing program has been verified by FHWA. [3] – State CDL testing program under review by FHWA. NA – Data not available. *Source: Federal Highway Administration. Office of Motor Carrier Standards.*

State update: *taxes, permits, legislation*

Florida – Taxpayers engaged exclusively in interstate commerce as "taxpayers furnishing transportation services" are subject to Florida's corporate tax, based on their revenue miles in the state. Information: 904-488-6800

Indiana – refuses to issue Bingo stamps to carriers until either: 1) carrier files evidence of state established levels of insurance covering the transportation of hazardous commodities; or 2) exclude hazardous commodities from their Interstate Commerce Commission (ICC) operating authorities. Carriers operating in or through Indiana must obtain appropriate insurance or request the ICC to exclude the transportation of hazardous commodities from their authorities. Information: 202-275-7597.

Kansas – now allows triples to operate from the relay point in Goodland, 20 miles to the Colorado line, with five miles of access to terminals en route, plus the miles between Baxter Springs and the Oklahoma line.

Michigan – assessments for up to seven years back taxes for Michigan's Single Business Tax are being sent to motor carriers. Information: 517-373-3180.

New York – carriers picking up or delivering goods in New York are subject to the state's .0075 gross receipts tax. Information: 518-457-2751. ☐

Shippers, fleets surveyed on projected impact of deregulation in Europe after 1992

By **PARRY DESMOND** Executive Editor 215-964-4529

A survey of 250 European shippers and carriers revealed their perceptions and needs as they plan for deregulation in the European Economic Community in 1992.

Sponsored by GE Information Services (GEIS) – the Rockville, Md.-based subsidiary of General Electric Co. – the survey determined that transportation companies need a worldwide system capable of providing: electronics data interchange (EDI) to communicate business information; shipment tracking; and data on carrier reliability.

That's why Cargo-Link Services, an integration of database, applications and messaging systems, was recently introduced to the U.S. market, according to Manfred Berner, GEIS' worldwide marketing manager of Trade and Transportation. Cargo-Link is expected to be available this summer.

Significant changes

According to the survey responses, some 80% of the shippers "expect to make significant changes" in the way they run their businesses following deregulation and the creation of a single European market.

The shippers and carriers project post-1995 commercial transportation to be comprised of: five to 10 carriers that provide full service throughout the continent; hundreds of medium-sized companies with strong vocational or regional niches; and "tens of thousands of small, highly localized firms" handling short hauls.

As a result of fewer border problems, decentralized warehousing, just-in-time (JIT) shipments by fewer suppliers and shorter lengths of haul, they expect transportation costs to decline and less-than-truckload shipments to increase.

Specific responses noted in the survey report include:

- Although 42% of the shippers say they are involved in JIT shipments, only 54% of them claim to measure reliability of the transport services they use. Most of the shippers and carriers said reliability is more critical than transit time. Shippers assert that reliability is the prime criterion when selecting carriers. Some 90% of the respondents use for-hire carriers.

  However, only 33% of the shippers and 25% of the carriers could quote reliability statistics.

- At least for intracontinental shipments, the use of traditional freight forwarder services is expected to decline since the need for special skills for handling cross-border shipments will be removed.

- The survey discovered "a mismatch of expectations," said Berner, when shippers and carriers were asked about deregulation's impact on freight rates.

  Over 80% of the shippers expect freight rates to drop -- 67% think there will be a 10% to 15% decline, while 16% look for rates to decline as much as 25%. But 62% of the carriers said rates will either rise or stay the same. The remaining 38% claim rates will fall 10% to 20%.

  "Almost without exception, however, carriers believe rates will stabilize and rise after a period of relative instability."

- "Very few" shippers use electronic data interchange (EDI), and 17% of the users "are at the experimental stage. Nonetheless, all [shippers] intend to begin using EDI during the coming years," and 75% of them expect to be online within two to five years. However, there was widespread uncertainty of the efforts required to introduce EDI, and of the long-term consequences of its adoption.

  Although 50% of the carriers say they use EDI, shipment tracking and booking had a higher priority than EDI in the survey's ranking of information systems issues.

  However, 88% of the carriers – but only 50% of the shippers – were aware of the role third party networks have in an EDI scenario.

- 100% of the carriers and shippers "didn't believe there were *any* excellent European transport firms." □

Ranking of importance of information issues by European shippers, carriers

Issue	Shippers	Carriers
EDI	2.04	5.29
Tracking	3.92	2.86
Statistics	5.54	2.86
Booking	5.87	3.57
Billing	7.04	5.29
Marketing info	7.75	9.71
Forecasting	7.96	8.43
Pricing	8.42	6.87
E. mail	8.58	9.86
Routing	8.66	8.86

The numerical values noted above are based on a scale of 1 to 10. As the issue's degree of importance decreases, its numerical value increases. Source: GEIS' *European Shippers Survey 1990.*

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IN THE NEXT ISSUE

"Money is life to us wretched mortals," wrote Hesiod, an early Greek poet. If that claim be true, then the July issue should to appeal to many readers.

The 22nd annual listing of 1989 financial data for the nation's largest for-hire carriers' is the core of our *Top 100* issue.

The issue also will include *Industry Trends and Statistics*—an analysis of common and private carriers' sizes, vocations and cost data, plus a breakdown of equipment sales.

And to pursue the money game at a personal level, CCJ will offer detailed results of an exclusive salary survey conducted by an independent research firm. The compensation and benefits information gleaned from 570 motor carriers will be broken down by job title, fleet size and region. □

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THE BUSINESS SIDE

Analyst offers TL carriers keys to success

By **PARRY DESMOND** Executive Editor 215-964-4529

Since "there's going to be a lot less focus on 30%, 40% and 50% annual growth rates," Bill Legg believes the 1990s will be a decade of "pricing based on cost analysis; developing relationships with your bankers; doing quality economic analysis; and hiring good people and training them to be the managers of the future."

Legg, analyst for Alex. Brown & Sons, the Baltimore-based brokerage, reached those conclusions in a presentation to members of the American Trucking Association's Interstate Truckload Carriers Conference who met in Las Vegas in March.

To support those conclusions, Legg made the following observations:

- Four factors drove the trucking industry's high rate of growth in the 1980s:

1. Deregulation allowed market share to be captured from inefficient carriers, particularly less-than-truckload and private fleets.
2. Diesel fuel was cheap.
3. Capital also was comparatively cheap, allowing carriers to buy equipment and thus bring down freight rates.
4. Seven years of sustained economic growth.

- In the 1980s, winners like J.B. Hunt, Werner, M.S. Carriers and Schneider "were able to manage the pressures of growth in terms of balancing equipment, drivers, capital and information systems." As the pace of growth intensified, companies lacking management talent "were caught with too little freight, too few drivers, too many trucks, too few controls, etc."

To show how critical asset utilization will be in the 1990s, as well as they were in the last decade, Legg noted that every 10% improvement in equipment utilization drops the operating ratio by about three points.

- Winners in the 1990s, will persuade shippers that it's in their best, long-term interest to ensure that carriers are relatively profitable.

Winners also will know their costs precisely so they "can just say no" to unprofitable business.

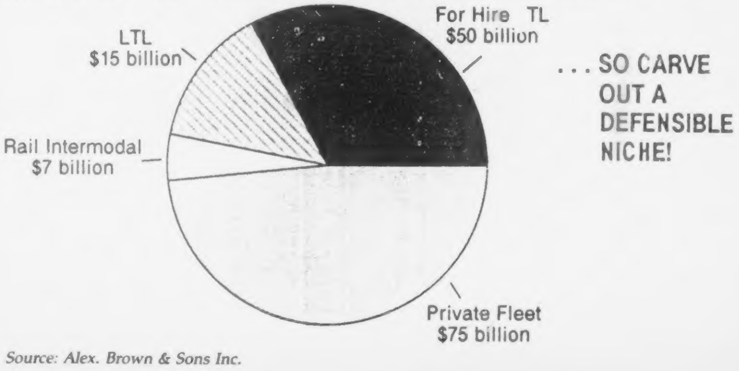
- Pricing discipline is important because a 90 OR will be the breakeven level for truckload carriers' return on capital.
- But pricing discipline is tough to accomplish because carriers "have to rely on published tariffs," which is "like relying on the *National Enquirer* for you news... Guessing is probably the most precise thing you have."

Pricing will have to be cost-based because "guessing won't do it in the 1990s."

- Value-added services are important because "the $5 billion to $10 billion of so-called easy freight is gone."
- To survive in the $50 billion TL marketplace, carriers must serve niche markets by shortening their length of haul, keeping away from double-stack train lanes, increasing service levels, providing electronic data interchange and satellite tracking. But niche markets require pickups and deliveries in tighter windows, creating greater opportunity for service failures.
- The 1990s will be the decade of the chief financial officer because many lending sources have dried up. "A lot of commercial banks have been burned and the equity window has been closed for the last two or three years."

Legg closed with the following summary: "The '90s will belong to the carrier that has all the chips. Look at the LTL carriers as a role model. Roadway, Yellow, Consolidated and Carolina control about 45% to 50% of the total market, and even more in terms of profits. They are the ones who went into deregulation with all the chips. They...will eventually emerge with even greater profits." □

MARKET IS HUGE BUT HIGHLY SEGMENTED



Source: Alex. Brown & Sons Inc.

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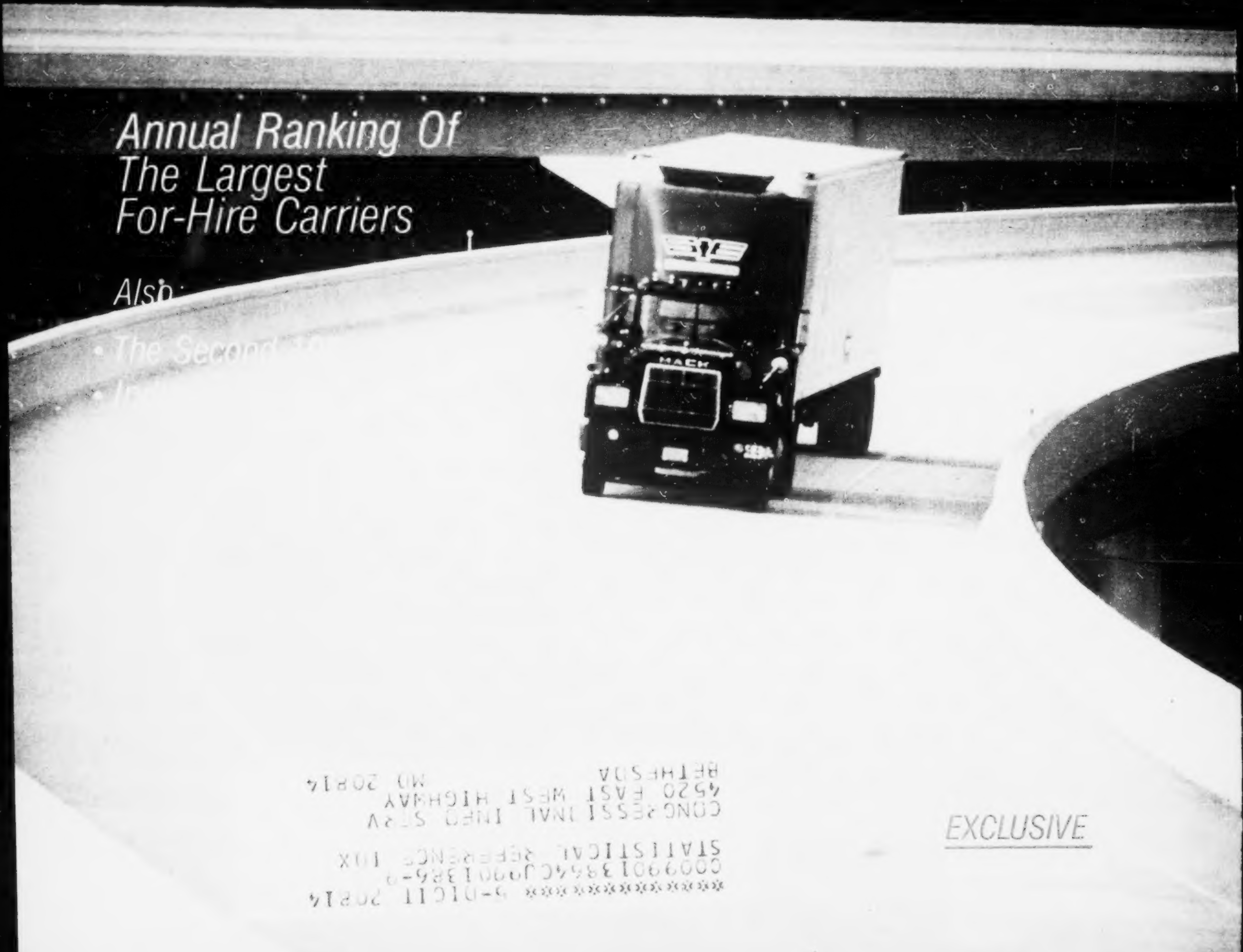

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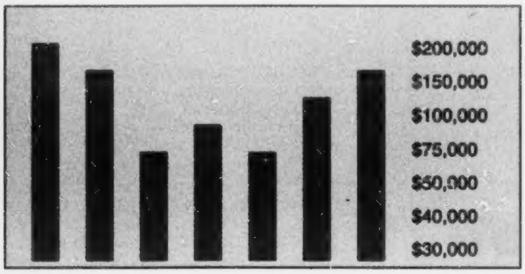

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IN THE NEXT ISSUE

In preparation for the August cover story on drug testing, CCJ visited two specimen collection agencies, government-approved laboratories and medical review officers. We also surveyed many of the carriers that came under the federal testing mandate last December. Based on information gleaned from those efforts, we will provide time-andcost-saving insights and updates on regulatory changes for carriers that are already testing, as well as fleets that will initiate their programs this Fall.

The issue also will include a technical report on ways to interpret tread wear patterns and tire failures, and how to improve tire PM.

And the August edition will have a product review of dozens of domestic and imported light-duty trucks. □

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Delaney's data buttresses need for deregulation of trucking in states

By **PARRY DESMOND** Executive Editor 215-964-4529

Some folks call Robert Delaney "Dataman." Delaney, vice president of Cass Logistics Inc., earned that characterization because his overpowering statistical analysis often refutes the hyperbole trucking industry leaders use to support feeble claims.

Cass Logistics of St. Louis, Mo., provides freight bill payment, audit and rating services, and software to 700 major clients, including 31 Fortune 100 companies.

At a Washington, D.C., press conference in June, Delaney concluded his presentation by asserting that a proposal to eliminate states' regulation of trucking will die in the House of Representatives.

Delaney's impassioned conclusion was based on his analysis of how deregulation of trucking cut U.S. business' transportation and inventory carrying costs by 22% – $65 billion – between 1982 and 1987.

According to Delaney, the two ways that reduction was accomplished were:

1. Transport costs decline by $35 billion

Between 1975 and 1981, trucking mileage increased 10.7%, while the gross national product grew only 3.2%. But with deregulation between 1981 and 1985, mileage increased 2.5% – essentially in direct proportion to the GNP's 2.4% growth.

That resulted in improved equipment utilization, which cut the number of heavy-duty tractors in operation from 1.4 million in 1980 to 1.1 million units in 1985. And in the same time frame, tractor production slid from 180,000 units to 130,000.

Since 1986, vehicle replacement has been stable as units are produced and sold in direct relation to economic conditions.

To reflect how deregulation has heightened competition, Delaney cited the number of motor carriers that have 48-state contiguous operating authority. They grew from none in 1980 to 5,000 fleets with nationwide authority in 1980.

By taking advantage of those new options, U.S. business' transportation costs declined from an average of 8.1% of the gross national product in the 1970s to 6.3% of the 1989 GNP.

2. Inventory costs down $30 billion

In the late 1970s, said Delaney, "transportation service was so poor and delivery so unreliable" that a larger proportion of stock had to be inventoried in order to respond to customer service complaints. As a result, variable transit time during the 1970s accounted for 40% of the lead time customers required in inventory replenishment formulas.

As a result of deregulation, transit time "is a fraction" of what it was between 1977 and 1981. And with reliable transportation, less inventory is required at fewer locations.

That means $200 billion is no longer locked into inventory investment. And, based on a minimum 15% carrying rate, that $200 billion inventory reduction translates into a $30 billion savings in inventory carrying costs.

Hastert bill a "kick-start"

"But business logistics costs have been on a plateau since 1988...and inflation is gradually building," continued Delaney. To give logistics efficiency a "kick-start," he champions HR 4261, the deregulation bill introduced last year by Rep. Dennis Hastert (R-Ill.)

While many truckload fleets support the proposal, claims Delaney, opposition to HR 4261 is led by "a group of tariff publishing bureaus and most, but not all, motor carriers serving the less-than-truckload market."

LTL carriers' political power is "out of proportion to the role that they play within our economy," said Delaney.

He acknowledged that LTL carriers control of 25% of for-hire trucking revenues. However, he noted that, when regulated and private carriage freight revenues are combined, LTLs' clout declines to 12% of the total market. And when other intercity modes – such as rail and barge – are included in the freight revenue pie, LTLs' slice represents only 8% of the total. ◻

For-Hire Carriers' 1989 Revenues by Market Segment

Segment	$ Billions
Truckload (gen'l freight)	$24
Less-Than-Truckload	18
Parcel Delivery	11
Bulk Commodities	5
Household Goods	5
Motor Vehicle Haulers	3
Refrigerated Transport	3
Building Materials	2
Heavy Machinery Haulers	1
TOTAL	$72

Source: State of Logistics Report prepared by Robert Delaney, Cass Logistics Inc.

THE TOP 100

Annual Ranking Of
The Largest
For-Hire Carriers

Also:

- The Second 100
- Indus [illegible]

'89 REVENUES & PROFITS: SLOW AND LOW

For-hire carriers had to cope with a financial double whammy in 1989: a sluggish economy plus devastating fuel price increases in December. As a result, the Top 100's composite net income plummeted 27.6%. But Werner Enterprises and New Penn Motor Express proved that 1989 wasn't a slow and low year for all fleets.

By PARRY DESMOND, *Executive Editor*

Text starts on page 61

Less-Than-Truckload Common Carriers of General Freight

AAA COOPER TRANSPORTATION, DOTHAN, AL	$ 136375	$ 122913	$ 13462	90.1	$ 6408	$ (1751)	$ 21	$ 5282
ABF FREIGHT SYSTEM INC, FORT SMITH, AR	630144	610886	19257	96.9	7679	(25247)	(3329)	(10340)
ANR FREIGHT SYSTEM, INC., DENVER, CO	416348	438546	(22198)	105.3	2926	(3186)	(10735)	(17575)
A-P-A TRANSPORT CORP., NORTH BERGEN, NJ	133347	123787	9559	92.8	2658	1645	839	7707
ADVANCE TRANSPORTATION CO., MILWAUKEE, WI	102989	100193	2795	97.3	2105	137	220	607
ARKANSAS FREIGHTWAYS, HARRISON, AR	97593	89756	7838	92.0	1931	677	2522	4062
AVERITT EXPRESS, COOKEVILLE, TN	113097	105055	8042	92.9	1845	(17)	2320	3860
BROWN TRANSPORT CORP., CHARLOTTE, NC	190193	199282	(9089)	104.8	10226	(2850)	0	(22165)
CAROLINA FREIGHT CARRIERS, CHERRYVILLE, NC	538889	531399	7490	98.6	4821	(426)	810	1433
CENTRAL FREIGHT LINES, INC., WACO, TX	213259	201657	11602	94.6	2144	1143	3241	7360
CENTRAL TRANSPORT, INC., STERLING HTS., MI	278816	277979	837	99.7	2078	277	179	(1143)
CHURCHILL TRUCK LINES, CHILLICOTHE, MO	145009	141827	3182	97.8	266	887	1474	2329
CON-WAY TRANSPORTATION SVCS., PORTLAND, OR	383418	328980	54438	85.8	2699	(56)	23608	28075
CONSOLIDATED FREIGHTWAYS, PORTLAND, OR	1894950	1800115	94835	95.0	9026	4906	32819	57896
ESTES EXPRESS LINES, RICHMOND, VA	89937	78698	11239	87.5	163	878	4318	7636
G.I. TRUCKING COMPANY, LA MIRADA, CA	84258	81805	2453	97.1	2685	(160)	(145)	(247)
HYMAN FREIGHTWAYS, INC., MOUNDS VIEW, MN	91144	89360	1785	98.0	876	162	160	911
JONES TRUCK LINES, INC., SPRINGDALE, AR	218093	211341	6752	96.9	8430	1409	892	(1161)
MERCHANTS FAST MOTOR LINES, ABILENE, TX	99785	98418	1366	98.6	0	1	465	902
NEW PENN MOTOR EXPRESS, LEBANON, PA	113274	90648	22626	80.0	55	4734	9471	17834
NORTHWEST TRPT SERVICE, COMMERCE CITY, CO	181519	170058	11461	93.7	231	1882	5118	7994
OLD DOMINION FREIGHT LINE, HIGH POINT, NC	127690	121433	6257	95.1	4638	(183)	140	1296
OVERNITE TRANSPORTATION CO., RICHMOND, VA	697783	634837	62947	91.0	766	9434	24033	47582
PRESTON TRUCKING COMPANY, INC., PRESTON, MD	366938	362579	4359	98.8	5082	427	(199)	(97)
ROADWAY EXPRESS, INC., AKRON, OH	1835496	1751679	83817	95.4	6083	8759	29200	57293
SAIA MOTOR FREIGHT LINE, HOUMA, LA	85617	73820	11798	86.2	5115	(271)	2757	3655
ST. JOHNSBURY TRUCKING CO., HOLLISTON, MA	313552	285732	27821	91.1	4229	(1150)	11048	11394
SOUTHEASTERN FREIGHT LINES, COLUMBIA, SC	129389	118819	10570	91.8	313	178	64	10371
TNT HOLLAND MOTOR EXPRESS, HOLLAND, MI	206241	184797	21444	89.6	2	61	9395	12108
TNT RED STAR EXPRESS, AUBURN, NY	146035	138708	7327	95.0	351	607	2875	4708
TRANSUS, INC., ATLANTA, GA	70536	70150	386	99.5	9	8606	30	8953
UNITED PARCEL SERVICE—OH, GREENWICH, CT	7249363	6820481	428882	94.1	995	(3273)	146720	277894
UNITED PARCEL SERVICE—NY, GREENWICH, CT	2803091	2760730	42361	98.5	71	(5201)	20230	16859
VIKING FREIGHT SYSTEM, INC., SAN JOSE, CA	226074	205394	20680	90.9	3567	373	6523	10963
WATKINS MOTOR LINES, INC., LAKELAND, FL	203677	193625	10052	95.1	2918	(3252)	1661	2221
WILLIG FREIGHT LINES, SAN FRANCISCO, CA	79212	74295	4917	93.8	2856	37	440	1658
YELLOW FREIGHT SYSTEM, OVERLAND PARK, KS	2189638	2152764	36874	98.3	11182	24891	7705	42878
TOTAL: LTL GENERAL FREIGHT	$22882769	$21842546	$1040224	95.5	$117429	$25088	$336890	$610993

(all dollar amounts in thousands)

3.87%	$ 15943	$ 49086	$ 11298	$ 11952	$ 7510	$ 4056	$ 3705	$ 2336	$ 8871	$ 8156	970
(1.64)	67096	258077	95409	50467	53988	23819	12192	10369	31300	8169	2618
(4.22)	38065	165031	74498	43289	36780	15818	13681	8153	4122	39109	2640
5.78	12923	51189	18990	10571	13585	2566	3602	3272	5927	1162	733
0.59	8353	38584	16608	8700	5089	3448	3742	1417	2410	11842	944
4.16	8006	23828	6671	4725	25128	2960	3515	1806	4346	8771	711
3.41	10408	36811	8747	13111	10709	2682	1685	2353	7314	11235	1292
(11.65)	24005	75404	18705	18345	17120	8490	6599	4294	12487	13833	1780
0.27	51453	226080	87217	43416	25396	15954	14456	7591	28326	31510	2558
3.45	11631	99052	24717	20794	16005	8781	4319	2983	11327	2048	2662
(0.41)	14931	30907	12404	3017	8579	3120	5806	1911	5324	191980	4762
1.61	13058	55143	19391	16382	6281	5127	2660	2240	5817	15728	807
7.32	47657	127610	37861	30158	32471	13125	9689	7379	21891	1139	2493
3.06	170617	736409	293059	173127	117257	62873	50044	24747	84835	87147	6957
8.49	8620	37575	8138	7796	3310	3502	2397	1672	5224	444	870
(0.29)	8979	25248	9256	4851	7241	2501	3050	1233	4172	15274	386
1.00	7163	27302	10869	5861	23839	2476	1972	1480	2212	6186	602
(0.53)	16666	99084	34351	19171	20305	6575	3958	3014	4490	3727	1397
0.90	7470	37326	14618	9445	13455	3870	2754	1788	373	7319	1099
15.74	9698	38536	15787	9161	4941	2960	2518	1508	4849	690	688
4.40	19198	64713	25227	15044	21940	6164	3176	1669	405	12522	770
1.01	13353	34087	8536	12081	9215	3857	7786	2440	5419	24659	1000
6.82	60030	294790	68055	81921	29827	31347	17320	12870	24557	14120	4562
(0.03)	28110	165364	58758	33409	22007	11045	10090	5817	14302	13677	2222
3.12	195890	714976	280869	161604	117193	56808	41289	27545	100014	55491	6914
4.27	5815	28158	7202	6414	3713	3537	2429	1451	6175	8926	827
3.63	23202	135260	51007	24919	14879	7772	5632	4036	7946	10079	1868
8.02	11336	53584	13001	12552	10502	3855	3078	2110	6107	2894	1201
5.87	16542	86871	29991	19110	5935	7105	3528	2192	6008	7515	1730
3.22	15351	60441	26356	11826	7517	4061	2892	2808	4304	3152	779
12.69	6472	24292	5382	7374	3954	1778	2890	1783	1619	14606	793
3.83	828543	2894495	1116017	463701	604673	93897	126729	97961	223370	371095	}13499
0.60	349939	1148229	491661	160819	264529	29756	59236	44086	82434	130041	
4.85	26899	76438	23724	18934	19302	7470	6622	3842	13332	8831	1311
1.09	21215	46592	13929	12928	19193	4923	6856	4205	3307	60477	724
2.09	6646	31247	12002	8881	3677	3697	1931	886	4517	810	551
1.96	206236	901247	395024	204505	119243	74790	51792	30723	124759	44445	8413
2.67%	$2387519	$8999066	$3445335	$1760361	$1726109	$546565	$505620	$338970	$884192	$1248809	84133

38055	36018	—	—	2037	336	0.888	781	189	1836	21	8.1
204465	202402	11	—	2052	1173	1.088	1956	662	4054	75	14.9
132238	99055	11380	7547	14256	569	1.211	1691	949	4004	79	10.1
14065	14065	—	—	—	248	1.497	590	143	1649	13	12.9
26384	10877	341	15166	—	258	1.186	554	390	1037	33	9.2
28069	25438	2631	—		359	1.008	562	148	1230	22	9.1
57774	10305	3648	43821	—	NA	0.574	615	677	1175	52	NA
71743	63504	7675	—	564	508	NA	943	836	1456	68	12.6
162457	137180	1925	—	23353	803	1.028	1962	596	4488	65	10.6
62490	61417	-	—	1073	208	0.875	1202	1460	3115	97	8.6
88650	51	88599	—	—	152	2.628	2590	2173	4349	205	8.2
45037	36842	5351	—	2844	617	1.114	618	189	1155	21	10.2
76481	76311	144	26	—	276	1.318	2003	490	4238	60	9.0
598950	545659	12469	4801	35952	1377	1.182	5309	1648	12723	183	14.8
20283	20283	—	—	—	200	1.015	573	297	1160	28	8.6
20762	6007	5281	812	8662	765	NA	302	84	798	10	14.2
205050	16365	566	6739	1380	459	1.138	419	184	899	16	10.4
57421	57421	—	—	—	423	1.013	1109	288	2234	33	10.3
29021	—	—	29021	—	280	NA	523	576	1144	42	10.6
16465	16465	—	—	—	222	NA	539	149	1142	16	9.3
56534	—	1101	54316	1117	1295	1.173	514	256	1110	24	17.3
44723	31147	13318	257	—	345	1.005	624	375	1138	60	7.7
265865	259033	—	—	6832	650	0.871	3044	1518	6669	142	10.8
79278	71757	—	—	7521	374	1.254	1614	608	3368	69	9.0
540293	482999	911	—	56383	1197	1.176	5336	1578	13094	179	14.1
23280	23280	—	—	—	254	0.973	456	371	1019	28	9.0
59314	49314	—	—	—	296	1.109	1389	479	3354	45	9.3
44985	44985	—	—	—	256	0.512	830	371	1838	34	6.8
49903	49903	-	—	—	260	1.193	1291	439	2227	49	9.0
20285	20285	--	—	—	200	1.295	675	104	1746	13	7.7
24559	12142	5262	2146	5009	373	0.871	383	410	857	33	8.6
}168756	}1666422	}20334	—	—	NA	NA	}13499	—	}2507911	—	NA
63835	63835	—	—	—	572	1.029	789	522	2137	51	11.8
95749	43588	52161	—	—	1547	0.810	559	165	1081	20	11.7
17934	17731	204	—	—	443	1.446	372	180	709	18	13.6
692919	654721	136	—	38062	1264	1.106	6887	1527	15836	201	14.5
5542072	4936807	233448	164652	207097	729	1.125	63103	21031	2617980	2105	12.5

Other Trucking Segments

(all dollar amounts in thousands)

TRUCKLOAD GENERAL FREIGHT									
ACE TRANSPORTATION, INC., LAFAYETTE, LA	$ 89271	$ 86946	$ 2326	97.4	$ 721	$1608	$ 1179	$ 2034	2.28%
BUILDERS TRANSPORT, CAMDEN, SC	228229	224165	4063	98.2	12012	5222	(564)	(2163)	(0.95)
COUNTRY WIDE TRUCK SERVICE, POMONA, CA	71077	80274	(9197)	112.9	3107	0	(911)	(11393)	(16.03)
CRETE CARRIER CORP., LINCOLN, NE	111757	106414	5343	95.2	213	880	845	5165	4.62
DART TRANSIT COMPANY, ST. PAUL, MN	90771	85691	5081	94.4	2005	366	88	3354	3.70
DONCO CARRIERS, INC., OKLAHOMA CITY, OK	69774	70747	(973)	101.4	0	(747)	96	(1816)	(2.60)
C.R. ENGLAND & SONS, SALT LAKE CITY, UT	73881	69404	4477	93.9	2598	608	81	2406	3.26
FREYMILLER TRUCKING, INC., BAKERSFIELD, CA	69151	62891	6260	90.9	3420	22	1061	1801	2.60
GEMINI TRPTN. SERVICES, GREENSBURG, PA	90163	87549	2613	97.1	173	(895)	634	911	1.01
J.B. HUNT TRANSPORT, INC., LOWELL, AR	509278	447527	61751	87.9	9418	0	21718	30615	6.01
M.S. CARRIERS, INC., MEMPHIS, TN	96813	81397	15416	84.1	2078	220	5235	8323	8.60
MISSOURI NEBRASKA EXPRESS, ST. JOSEPH, MO	123586	131203	(7617)	106.2	4148	505	(3908)	(7352)	(5.95)
MUNSON TRANSPORTATION, MONMOUTH, IL	99645	95185	4459	95.5	4424	207	41	201	0.20
NATIONAL FREIGHT, INC., VINELAND, NJ	144405	139162	5243	96.4	4035	0	2057	(849)	(0.59)
NEW PRIME, INC., SPRINGFIELD, MO	78599	70290	8309	89.4	3020	168	130	5327	6.78
P.A.M. TRPTN. SERVICES, TONTITOWN, AR	70122	75282	(5160)	107.4	3328	150	(1494)	(6844)	(9.76)
PENNSYLVANIA TRUCK LINES, WYNNEWOOD, PA	82766	82637	130	99.8	290	485	1256	(931)	(1.12)
RANGER TRANSPORTATION, JACKSONVILLE, FL	203245	197771	5474	97.3	3311	172	972	1363	0.67
ROADRUNNER TRUCKING, ALBUQUERQUE, NM	81058	69431	11627	85.7	113	(39)	100	11375	14.03
RYDER DISTRIBUTION RESOURCES, MIAMI, FL	281502	285969	(4467)	101.6	0	(161)	51	(4679)	(1.66)
SIGNAL DELIVERY SERVICE, CLEVELAND, OH	230995	221048	9946	95.7	5176	2	3677	1095	0.47
UNIVERSAL AM-CAN, LTD., STERLING HTS., MI	87874	90099	(2225)	102.5	95	130	(382)	(1808)	(2.06)
WERNER ENTERPRISES, OMAHA, NE	251575	219977	31598	87.4	4278	417	10956	16781	6.67
TOTAL—TRUCKLOAD GENERAL FREIGHT	$3235537	$3081059	$154477	95.2	$67963	$9320	$42918	$52916	1.64%
TANK TRUCK									
CHEMICAL LEAMAN TANK LINES, EXTON, PA	$ 207362	$ 201842	$ 5520	97.3	$ 5919	$ 354	$ 539	$ (584)	(0.28)%
DSI TRANSPORTS, INC., HOUSTON, TX	72331	66173	6158	91.5	1820	28	2324	2042	2.82
FLEET TRANSPORT CO., CLEVELAND OH	80480	77573	2906	96.4	2556	(3054)	162	(2866)	(3.56)
GROENDYKE TRANSPORT, INC., ENID, OK	79506	76161	3345	95.8	1641	253	39	1918	2.41
KOCH SERVICE, INC., WICHITA, KS	92559	79723	12836	86.1	0	0	4857	7979	8.62
MATLACK, INC., WILMINGTON, DE	214489	212208	2281	98.9	5561	159	(1181)	(1940)	(0.90)
MILLER TRANSPORTERS, INC., JACKSON, MS	70301	71388	(1087)	101.5	1333	(196)	(930)	(1686)	(2.40)
MONTGOMERY TANK LINES, INC., PLANT CITY, FL	105518	96126	9392	91.1	4942	561	1894	3117	2.95
REFINERS TRPT. & TERMINAL, CLEVELAND, OH	72868	71431	1437	98.0	2213	(3347)	0	(4123)	(5.66)
TOTAL—TANK TRUCK	$ 995414	$ 952625	$ 42788	95.7	$25985	$(4942)	$ 7704	$ 4157	0.42%
MOTOR VEHICLES									
ALLIED SYSTEMS "LTD.," DECATUR, GA	$ 189870	$ 185630	$ 4240	97.8	$ 3099	$ 550	$ 0	$ 1691	0.89%
ANCHOR MOTOR FREIGHT, BIRMINGHAM, MI	256629	247521	9109	96.5	4182	146	4197	876	0.34
CASSENS TRANSPORT CO., EDWARDSVILLE, IL	77310	79070	(1760)	102.3	301	200	301	(2162)	(2.80)
COMMERCIAL CARRIERS, BLOOMFIELD HILLS, MI	210070	209032	1038	99.5	0	3	232	809	0.39
COMPLETE AUTO TRANSIT, BLOOMFIELD HILLS, MI	238955	230441	8514	96.4	1740	1450	3697	4527	1.89
JACK COOPER TRPT. CO., OKLAHOMA CITY, OK	88988	83862	5125	94.2	1857	(430)	1120	1718	1.93
E&L TRANSPORT COMPANY, WAYNE, MI	102200	103001	(801)	100.8	55	456	208	(608)	(0.59)
M&G CONVOY, INC., BUFFALO, NY	101095	104052	(2957)	102.9	1138	301	(1845)	(1949)	(1.93)
NU-CAR CARRIERS, INC., BIRMINGHAM, MI	133146	137443	(4297)	103.2	3815	4	(1540)	(6568)	(4.93)
TOTAL—MOTOR VEHICLE CARRIERS	$1398263	$1380052	$ 18210	98.7	$16187	$2681	$ 6370	$ (1666)	(0.12)%
REFRIGERATED COMMODITIES									
FFE TRPTN SVCS INC, DALLAS, TX	$ 107215	$ 103938	$ 3277	96.9	$ 1237	$ 926	$ 949	$ 2017	1.88%
KLLM TRANSPORT SERVICES, INC., JACKSON, MS	115745	109034	6711	94.2	4529	9	800	1391	1.20
MARTEN TRANSPORT, LTD., MONDOVI, WI	73312	72494	818	98.9	3112	375	(520)	(1399)	(1.91)
NATIONAL CARRIERS, INC., LIBERAL, KS	73020	70052	2967	95.9	1868	765	576	1288	1.76
TOTAL—REFRIGERATED COMMODITIES	$ 369292	$ 355518	$ 13773	96.3	$10746	$2075	$ 1805	$ 3297	0.89%
OTHER SPECIALIZED CARRIERS									
ANDERSON TRUCKING SVC, ST CLOUD, MN	$ 103408	$ 97649	$ 5759	94.4	$ 1116	$ 0	$1614	$ 3029	2.93%
JACK GRAY TRANSPORT, INC., GARY, IN	77789	71931	5858	92.5	497	633	(685)	6679	8.59
INDEPENDENT FREIGHTWAYS, ROCKFORD, IL	145453	140286	5167	96.4	1862	(129)	1253	1923	1.32
MERCHANTS HOME DELIVERY, OXNARD, CA	88467	80395	8071	90.9	29	(943)	3080	4019	4.54
POOLE TRUCK LINE, INC., EVERGREEN, AL	104520	104041	479	99.5	4838	(689)	(6329)	1281	1.23
TRI-STATE MOTOR TRANSIT, JOPLIN, MO	104799	103220	1578	98.5	1761	559	75	301	0.29
TOTAL—OTHER SPECIALIZED CARRIERS	$ 624436	$ 597522	$ 26913	95.7	$10103	$ (572)	$ (993)	$17231	2.76%

$ 6184	$ 64028	$ 198	$ 4464	$ 4213	$ 1061	$ 4491	$ 1714	$ 593	$ 0	NA	21384
12788	68801	18889	49397	10569	23189	10944	4654	22683	2251	6686	222361
→	21071	←	15736	7488	2697	4412	0	6248	22622	NA	74730
2741	12421	3422	12876	1996	1382	2829	1003	5788	61956	2174	107921
1191	3723	849	5499	1861	1448	2757	938	3394	64031	1455	87426
2631	10622	2275	12161	2282	2752	2856	1171	371	33626	934	65756
1270	22798	3352	24068	2121	3145	2480	1061	3684	5425	794	79409
1662	17866	2311	17080	4850	3386	2818	1334	5951	5633	756	70566
1680	656	961	1652	8832	109	3180	497	562	69420	NA	NA
17229	167399	29561	120835	14475	17847	23100	8604	48440	37	7122	495377
3952	20744	5176	20681	8745	3445	4058	1880	12308	408	1436	92783
5738	31712	6433	32697	0	4867	6067	1797	13796	28096	946	98059
3042	27407	5554	23165	5525	8738	5076	1788	11032	3858	2275	88459
3750	28995	4232	19732	7632	8267	8328	2465	11582	44179	1381	118923
2718	1524	1040	2723	1905	818	1122	710	4830	52900	1296	72719
2556	21547	4058	23594	2410	3381	5542	1112	10336	746	NA	76086
9529	31406	14831	12066	4050	1694	1938	772	2314	4037	NA	11881
4267	9239	5294	4194	19789	738	5755	1091	1812	145592	NA	202811
3897	12371	4360	17651	3627	3242	3117	1115	273	19778	1364	80953
13584	96374	36754	38908	18927	1699	7268	2779	6591	63085	2913	120245
7347	92973	38639	23793	20925	10836	7264	1014	14780	3477	NA	128125
4711	3284	986	752	6812	1000	8050	1637	2865	60002	1558	39609
10631	68882	12924	50474	6636	25952	11491	3310	28740	937	3472	251099
$123098	$835843	$202099	$534198	$165670	$131693	$134043	$42446	$218973	$692096	36562	2606682
$ 12325	$ 40079	$ 20764	$ 27976	$ 11684	$ 6228	$ 6681	$ 4581	$ 13624	$ 57900	4781	94135
4680	21759	6792	11902	5696	3877	2312	1410	6030	1715	3993	44916
3770	4657	2680	6433	7499	1031	2611	1125	2790	44977	7820	60504
3316	22961	5710	9606	3495	3463	6031	816	4282	16481	4241	56167
4888	25350	5967	26471	1144	1884	5306	1223	6665	825	NA	51280
13375	48793	19483	42638	13957	8954	7331	4797	14430	38450	7466	103094
5023	17430	7723	11372	4487	3251	2226	1374	2852	15650	2955	44553
4508	3033	2205	8397	6861	859	2704	1573	3564	62422	1988	58994
7063	18285	9152	10665	5750	1388	2415	761	3432	12520	8006	39447
$ 58948	$202347	$ 80476	$155460	$ 60573	$ 30935	$ 37617	$17660	$ 57669	$250940	41250	553089
$ 4990	$ 71553	$ 28154	$ 24594	$ 13679	$ 9388	$ 7250	$ 1382	$ 5215	$19425	2729	8588
7664	89198	40806	36795	29189	4918	13792	1732	21579	1848	2988	94108
2350	29500	11465	11234	2781	4831	3807	562	3855	8685	1232	39299
7245	71604	32679	30118	8747	10823	9906	1199	14122	22589	3887	90952
7573	70647	33201	32368	7778	10629	8075	1753	23004	35413	2569	102382
4644	33610	13299	16223	2927	4695	3129	771	4481	83	1297	40102
5823	30179	14194	13734	6832	4717	3512	1158	1976	20876	1139	35604
4118	32598	17772	14783	3815	4270	4872	748	10370	10706	1241	36733
4768	47125	20508	16667	16888	2716	8591	883	10378	8919	2769	59108
$ 49175	$476014	$212078	$196516	$ 92636	$ 56987	$ 62934	$ 10188	$ 94980	$128544	19851	584176
$ 6259	$ 3195	$ 2888	$ 6163	$ 4855	$ 932	$ 4211	$ 1896	$ 1280	$ 72259	1070	62032
4861	29863	4735	42538	3722	2210	5938	2439	12728	0	1701	109310
3049	18787	5231	19021	3034	3331	4965	1093	9584	4399	785	74484
1927	1511	1428	2385	3278	570	2213	363	1540	54837	207	69547
$ 16096	$ 53356	$ 14282	$ 70107	$ 14889	$ 7043	$ 17327	$ 5791	$ 25132	$131495	3763	315373
$ 15686	$ 569	$ 3303	$ 15717	$ 5848	$ 3141	$ 2942	$ 1620	$ 4634	$ 44189	998	76984
2838	3976	2206	3240	3367	1238	3228	610	1182	55046	4834	49102
→	5421	1038	1600	13017	6	6154	1281	1300	110469	2147	122240
6544	3366	2188	476	7484	111	6563	540	1041	52082	NA	NA
4806	33549	8036	22358	4352	10548	5664	1878	5383	7467	2319	144680
6075	21909	6622	13488	5450	6918	3690	1922	2649	34497	816	83408
$ 35949	$ 68790	$ 23393	$ 56879	$ 39518	$ 21962	$ 28241	$ 7851	$ 16189	$298750	11114	446414

(all dollar amounts in thousands)

HOUSEHOLD GOODS									
ALLIED VAN LINES, INC., NAPERVILLE, IL	$ 405968	$ 395806	$ 10162	97.5	$ 7051	$ 8275	$ 5340	$ 6046	1.49%
ATLAS VAN LINES, INC., EVANSVILLE, IN	208318	194299	14018	93.3	11202	(103)	1452	1261	0.61
BEKINS VAN LINES CO., HILLSIDE, IL	210892	206217	4676	97.8	385	643	1972	2962	1.40
BURNHAM SERVICE CO., INC., COLUMBUS, GA	93326	88238	5088	94.5	0	146	1988	3246	3.48
GRAEBEL VAN LINES, INC., WAUSAU, WI	84132	83604	528	99.4	133	174	54	515	0.61
MAYFLOWER TRANSIT, INC., INDIANAPOLIS, IN	320772	312588	8185	97.4	362	9075	5716	11182	3.49
NORTH AMERICAN VAN LINES, INC., FT. WAYNE, IN	792190	791845	345	100.0	11545	2273	(2982)	(5945)	(0.75)
UNITED VAN LINES, INC., FENTON, MO	468023	464083	3940	99.2	3537	2465	983	1885	0.40
TOTAL HOUSEHOLD GOODS	$2583621	$2536680	$46942	98.2	$34215	$22948	$14523	$21152	0.82%

Definitions and Explanations Of Financial Terminology Used On The Charts

Operating Ratio: Operating expenses as a percentage of gross revenues. Since it excludes extraordinary expenses, income taxes and interest, individual peculiarities are eliminated so the ratio may be used as an industry-wide measure of performance.

Other Fringes: Includes charges such as federal and state payroll taxes, group and workers' compensation insurance, pension and retirement plans through both commercial insurance and unions.

Maintenance/Operating Supplies and Expenses: Includes fuel, oil, lubricants and coolants, vehicle parts, vehicle maintenance by outside vendors, tires and tubes, and miscellaneous supplies such as hand tools, brake fluid and antifreeze.

General Supplies and Expenses: Includes costs of administrative supplies including computer software, books, magazines, magnetic tapes, postage, stationery, printing of tariffs, advertising, commission agent fees, solicitation commissions, company personnel's T&E expenses. Also building and equipment rents and miscellaneous expenses such as fees for professional services by physicians, attorneys, etc., plus uncollectable revenues.

Operating Taxes and Licenses: Includes fuel and oil taxes, vehicle license and registration fees based on usage, real estate and personal property taxes, and tax items such as capital stock taxes, gross receipts taxes, occupancy taxes, etc.

Depreciation and Amortization & Gain or Loss on Disposition of Operating Assets: Includes depreciation of structures on owned land, revenue and shop equipment, furniture and office equipment; amortization of: improvements to leasehold property, fixed term motor carrier franchises, permits, licenses, patent rights, etc.; gain or loss on disposition of operating assets such as sold, traded or retired tractors, trailers and trucks.

Revenue Equipment Rents and Purchased Transportation: Includes amounts payable for: furnishing vehicles with or without the services of drivers, transportation of shipments in another carrier's vehicle including intermodal fleets, and allowance to shippers for picking up or delivering freight to a carrier's facility.

First, the comparatively good news: the nation's Top 100 for-hire carriers' total revenues increased 5.9% over 1988.

Believers in the power of positive thinking, might think the 5.9% revenue growth figure isn't too shabby, considering that the U.S. Gross National Product (GNP) increased by only 2.6% in the same period, and the Producer Price Index (PPI) went up 5.1%.

Now, the bad news: the leading U.S. common carriers' total operating expenses increased at an even faster rate—7.8%. And as a result, the biggest for-hire fleets' composite post-tax income declined 27.6% last year, compared to 1988.

Obviously, the cost of diesel fuel, which skyrocketed in late 1989 and ballooned by 15.8% overall last year, was a major reason for the weak profit picture.

To compound the fuel-cost problem, 18 states and the District of Columbia increased fuel taxes last year. That's the most widespread increase since 1981, when 21 states raised fuel taxes.

Surging medical and workers compensation insurance expenses also made deep cuts into profits.

Perhaps the best measurement of how the Top 100 coped with a slowing economy and out-of-whack fuel costs was the fact that the composite operating ratio (OR) increased from 96.5 in 1988 to 96.7 last year.

There were bright spots in 1989, too. Werner Enterprises, for example, had a banner year. Gross revenues increased by $60.1 million. That's 31.4% growth, up from

Text continues on page 66

THE HIGH FIVES

Carriers with highest net incomes ($ million)

United Parcel Service (Oh.)	$277.9
Consolidated Freightways	57.9
Roadway Express	57.3
Overnite Transportation	47.6
Yellow Freight	42.9

Carriers with highest profit margins

New Penn Motor Express	15.7%
Roadrunner Trucking	14.0%
Transus	12.7%
Koch Service	8.6%
MS Carriers	8.6%

THE FALTERING FIVES

Carriers with worst losses ($ million)

Brown Transport	$22.2
ANR Freight System	17.6
Countrywide Truck Service	11.4
ABF Freight System	10.3
Missouri Nebraska Express	7.4

Carriers with worst losses (by percentage)

Countrywide Truck Service	-16.0%
Brown Transport	-11.7%
P.A.M. Transportation Svcs.	-9.8%
Missouri Nebraska Express	-5.6%
Refiners Transport & Terminal	-5.7%

> *Perhaps the best measurement of how the Top 100 coped with a slowing economy and out-of-whack fuel costs was the fact that the composite operating ratio (OR) increased from 96.5 in 1988 to 96.7 last year.*

Profit Comparison by Type Fleet Average

	1989 OR	1988 OR	1989 Profit Margin	1988 Profit Margin
Less-than-truckload	95.5	94.9	2.67%	3.66%
Truckload	95.2	94.2	1.64%	1.70%
Tank Truck	95.7	95.5	0.42%	1.11%
Car Carriers	98.7	96.3	-0.12%	2.21%
Reefers	96.3	94.9	0.89%	2.27%
Household Goods	98.2	97.5	0.82%	0.83%

TOP 100

(all dollar amounts in thousands)

1	UNITED PARCEL SERVICE (OHIO), GREENWICH, CT	CMGF	$7249363	$6608037	1	94.1	31	93.6	33
2	UNITED PARCEL SERVICE (NEW YORK), GREENWICH, CT	CMGF	2803091	2526709	2	98.5	T72	99.9	87
3	YELLOW FREIGHT SYSTEM, INC., OVERLAND PARK, KS	CMGF	2189638	1991602	3	98.3	71	94.5	42
4	CONSOLIDATED FREIGHTWAYS CORP. (DEL), PORTLAND, OR	CMGF	1894950	1749180	4	95.0	T38	93.9	35
5	ROADWAY EXPRESS, INC., AKRON, OH	CMGF	1835496	1693597	5	95.4	44	94.1	39
6	NORTH AMERICAN VAN LINES, INC., FORT WAYNE, IN	CMHG	792190	817895	6	100.0	86	97.3	67
7	OVERNITE TRANSPORTATION COMPANY, RICHMOND, VA	CMGF	697783	638486	7	91.0	18	87.1	9
8	SCHNEIDER NATIONAL, INC., GREEN BAY, WI	CMGF	665817	523748	NR	NA	NR	NA	NR
9	ABF FREIGHT SYSTEM, INC., FORT SMITH, AR	CMGF	630144	616774	8	96.9	T54	95.8	50
10	CAROLINA FREIGHT CARRIERS CORP., CHERRYVILLE, NC	CMGF	538889	531557	9	98.6	T74	95.2	45
11	J.B. HUNT TRANSPORT, INC., LOWELL, AR	CMGF	509278	392553	13	87.9	10	84.8	5
12	UNITED VAN LINES, INC., FENTON, MO	CMHG	468023	440284	12	99.2	79	100.0	88
13	ANR FREIGHT SYSTEM, INC., DENVER, CO	CMGF	416348	468009	11	105.3	96	101.5	92
14	ALLIED VAN LINES, INC., NAPERVILLE, IL	CMHG	405968	383626	14	97.5	64	98.3	75
15	CON-WAY TRANSPORTATION SERVICES, PORTLAND, OR	CMGF	383418	NA	NR	85.8	5	NA	NR
16	PRESTON TRUCKING COMPANY, INC., PRESTON, MD	CMGF	366938	368044	15	98.8	76	97.1	63
17	MAYFLOWER TRANSIT, INC., INDIANAPOLIS, IN	CMHG	320772	314226	16	97.4	T62	97.2	66
18	ST. JOHNSBURY TRUCKING CO., INC., HOLLISTON, MA	CMGF	313552	296900	19	91.1	T19	90.5	15
19	RYDER DISTRIBUTION RESOURCES, INC., MIAMI, FL	CMGF	281502	251755	22	101.6	90	98.0	74
20	CENTRAL TRANSPORT, INC., STERLING HEIGHTS, MI	CMGF	278816	309642	17	99.7	84	96.7	56
21	ANCHOR MOTOR FREIGHT, INC., BIRMINGHAM, MI	CTMV	256629	272209	20	96.5	53	96.7	56
22	WERNER ENTERPRISES, INC., OMAHA, NE	CMGF	251575	191438	35	87.4	8	85.3	6
23	COMPLETE AUTO TRANSIT, INC., BLOOMFIELD HILLS, MI	CTMV	238955	247180	24	96.4	T49	93.9	35
24	SIGNAL DELIVERY SERVICE, INC., CLEVELAND, OH	CMSC	230995	248725	23	95.7	46	95.8	50
25	BUILDERS TRANSPORT, INC., CAMDEN, SC	CMGF	228229	203861	31	98.2	70	96.0	53
26	VIKING FREIGHT SYSTEM, INC., SAN JOSE, CA	CMGF	226074	205147	30	90.9	T15	92.8	27
27	JONES TRUCK LINES, INC., SPRINGDALE, AR	CMGF	218093	193008	NR	96.9	T54	97.5	NR
28	MATLACK, INC., WILMINGTON, DE	CTLP	214489	227694	25	98.9	T77	97.0	61
29	CENTRAL FREIGHT LINES, INC., WACO, TX	CMGF	213259	211418	28	94.6	37	90.9	16
30	BEKINS VAN LINES COMPANY, HILLSIDE, IL	CMHG	210892	212650	27	97.8	T65	98.9	81
31	COMMERCIAL CARRIERS, INC., BLOOMFIELD HILLS, MI	CMMV	210070	198043	34	99.5	T81	92.8	27
32	ATLAS VAN LINES, INC., EVANSVILLE, IN	CMHG	208318	201007	32	93.3	27	94.1	39
33	CHEMICAL LEAMAN TANK LINES, INC., EXTON, PA	CTLP	207362	214424	26	97.3	T59	97.1	63
34	TNT HOLLAND MOTOR EXPRESS, INC., HOLLAND, MI	CMGF	206241	181953	36	89.6	13	89.6	13
35	WATKINS MOTOR LINES, INC., LAKELAND, FL	CMGF	203677	171647	38	95.1	T40	95.7	49
36	RANGER TRANSPORTATION, INC., JACKSONVILLE, FL	CMGF	203245	209926	29	97.3	T59	98.6	79
37	BROWN TRANSPORT CORP., CHARLOTTE, NC	CMGF	190193	245397	NR	104.8	95	108.3	NR
38	ALLIED SYSTEMS "LTD," DECATUR, GA	CMMV	189870	200822	33	97.8	T65	96.9	55
39	NORTHWEST TRANSPORT SERVICE, COMMERCE CITY, CO	CMGF	181519	172333	37	93.7	28	92.0	25
40	TNT RED STAR EXPRESS, INC., AUBURN, NY	CMGF	146035	127420	43	95.0	T38	96.1	54
41	INDEPENDENT FREIGHTWAYS, INC., ROCKFORD, IL	CMSC	145453	130802	41	96.4	T49	98.7	80
42	CHURCHILL TRUCK LINES, INC., CHILLICOTHE, MO	CMGF	145009	139548	40	97.8	T65	95.5	48
43	NATIONAL FREIGHT, INC., VINELAND, NJ	CMGF	144405	133195	NR	96.4	T49	105.1	NR
44	AAA COOPER TRANSPORTATION, DOTHAN, AL	CMGF	136375	116472	45	90.1	14	87.9	11
45	A-P-A TRANSPORT CORP., NORTH BERGEN, NJ	CMGF	133347	129151	42	92.8	25	93.5	31
46	NU-CAR CARRIERS, INC., BIRMINGHAM, MI	CTMV	133146	145847	39	103.2	94	101.6	94
47	SOUTHEASTERN FREIGHT LINES, INC., COLUMBIA, SC	CMGF	129389	119984	44	91.8	22	92.3	26
48	OLD DOMINION FREIGHT LINE, INC., HIGH POINT, NC	CMGF	127690	114786	46	95.1	T40	95.4	46
49	MISSOURI NEBRASKA EXPRESS (MNX), ST. JOSEPH, MO	CMGF	123586	85230	68	106.2	97	95.4	46
50	KLLM TRANSPORT SERVICES, INC., JACKSON, MS	CMRC	115745	97410	52	94.2	T32	91.4	22

For Top 100 listings under "Type": BM-building materials, CM-common; CT-contracts; GF-general freight; ED-explosives/dangerous articles; FP-forest products; HG-household goods; HM-heavy machinery; LP-liquid petroleum products (included, in most cases, other bulk commodities); MV-motor vehicles; RS-retail store delivery; SC-specific commodity not otherwise grouped.
T: Tie in Operating Ratio. NR: Not Ranked

(all dollar amounts in thousands)

[redacted]

51	**NEW PENN MOTOR EXPRESS, INC., LEBANON, PA**	CMGF	$113274	$109550	47	80.0	1	81.6	2
52	**AVERITT EXPRESS, INC., COOKEVILLE, TN**	CMGF	113097	87229	66	92.9	26	91.3	20
53	**CRETE CARRIER CORPORATION, LINCOLN, NE**	CMGF	111757	95939	54	95.2	43	95.1	44
54	**CONTRACT FREIGHTERS, INC., JOPLIN, MO***	CMGF	110106	99207	51	89.5	12	85.5	7
55	**FFE TRANSPORTATION SERVICES, INC., DALLAS, TX**	CMRC	107215	88699	62	96.9	T54	95.0	43
56	MONTGOMERY TANK LINES, INC., PLANT CITY, FL	CMLP	105518	92749	NR	91.1	T19	91.4	NR
57	TRI-STATE MOTOR TRANSIT CO., JOPLIN, MO	CMSC	104799	93721	56	98.5	T72	100.5	89
58	POOLE TRUCK LINE, INC., EVERGREEN, AL	CMHM	104520	103000	NR	99.5	T81	NA	NR
59	ANDERSON TRUCKING SERVICE, INC., ST. CLOUD, MN	CMSC	103408	83822	72	94.4	T34	94.2	41
60	ADVANCE TRANSPORTATION COMPANY, MILWAUKEE, WI	CMGF	102989	94977	55	97.3	T59	97.1	63
61	**E&L TRANSPORT COMPANY (MI CORP.), WAYNE, MI**	CTMV	102200	104757	49	100.8	87	96.9	58
62	**M&G CONVOY, INC., BUFFALO, NY**	CMMV	101095	107455	48	102.9	93	98.3	75
63	**MERCHANTS FAST MOTOR LINES, INC., ABILENE, TX**	CMGF	99785	88593	63	98.6	T74	99.4	84
64	**MUNSON TRANSPORTATION, INC., MONMOUTH, IL**	CMGF	99645	82933	73	95.5	45	91.1	19
65	**ARKANSAS FREIGHTWAYS CORP., HARRISON, AR**	CMGF	97593	73080	87	92.0	23	91.3	20
66	M.S. CARRIERS, INC., MEMPHIS, TN	CMGF	96813	68480	99	84.1	3	84.4	3
67	BURNHAM SERVICE COMPANY, INC., COLUMBUS, GA	CMHG	93326	96144	53	94.5	36	91.0	17
68	KOCH SERVICE, INC., WICHITA, KS	CMLP	92559	91956	57	86.1	6	80.6	1
69	HYMAN FREIGHTWAYS, INC., MOUNDS VIEW, MN	CMGF	91144	84864	71	98.0	T68	99.5	85
70	DART TRANSIT COMPANY, ST. PAUL, MN	CMGF	90771	85141	69	94.4	T34	93.5	31
71	**GEMINI TRANSPORTATION SERVICES, GREENSBURG, PA**	CMGF	90163	89043	59	97.1	T57	97.3	67
72	**ESTES EXPRESS LINES, RICHMOND, VA**	CMGF	89937	88446	64	87.5	9	84.4	3
73	**ACE TRANSPORTATION, INC., LAFAYETTE, LA**	CMSC	89271	64532	NR	97.4	T62	95.3	NR
74	**JACK COOPER TRANSPORT COMPANY, OKLAHOMA CITY, OK**	CMMV	88988	90788	58	94.2	T32	97.6	71
75	**MERCHANTS HOME DELIVERY SERVICE, INC., OXNARD, CA**	CMSC	88467	78137	76	90.9	T15	91.9	24
76	UNIVERSAL AM-CAN, LTD., STERLING HEIGHTS, MI	CMGF	87874	78614	75	102.5	92	93.2	30
77	SAIA MOTOR FREIGHT LINE, INC., HOUMA, LA	CMGF	85617	73441	85	86.2	7	87.2	10
78	G.I. TRUCKING COMPANY, LA MIRADA, CA	CMGF	84258	75001	82	97.1	T57	103.5	97
79	GRAEBEL VAN LINES, INC., WAUSAU, WI	CMHG	84132	66870	NR	99.4	80	99.5	NR
80	DALLAS & MAVIS FORWARDING CO., KENOSHA, WI*	CMMV	82846	85350	67	95.1	T40	93.7	34
81	**PENNSYLVANIA TRUCK LINES, INC., WYNNEWOOD, PA**	CMGF	82766	88920	60	99.8	85	97.7	72
82	**ROADRUNNER TRUCKING, INC., ALBUQUERQUE, NM**	CMGF	81058	74270	83	85.7	4	91.0	17
83	**FLEET TRANSPORT CO., INC., CLEVELAND, OH**	CMLP	80480	72683	88	96.4	T49	101.5	92
84	**GROENDYKE TRANSPORT, INC., ENID, OK**	CMLP	79506	76357	79	95.8	47	93.9	35
85	**WILLIG FREIGHT LINES, SAN FRANCISCO, CA**	CMGF	79212	75572	81	93.8	29	92.9	29
86	NEW PRIME, INC., SPRINGFIELD, MO	CMGF	78599	61186	NR	89.4	11	89.7	NR
87	JACK GRAY TRANSPORT, INC., GARY, IN	CMSC	77789	76447	78	92.5	24	90.2	14
88	CASSENS TRANSPORT COMPANY, EDWARDSVILLE, IL	CMMV	77310	81129	74	102.3	91	95.8	50
89	WHITEFORD TRANSPORT SYSTEMS, SOUTH BEND, IN	CMGF	73927	124247	NR	80.7	2	91.6	NR
90	C.R. ENGLAND & SONS, SALT LAKE CITY, UT	CMGF	73881	59286	NR	93.9	30	90.2	NR
91	**MARTEN TRANSPORT, LTD., MONDOVI, WI**	CMRC	73312	67173	NR	98.9	T77	94.2	NR
92	**NATIONAL CARRIERS, INC., LIBERAL, KS**	CMRC	73020	68118	100	95.9	48	96.9	58
93	**REFINERS TRANSPORT & TERMINAL CORP., CLEVELAND, OH**	CMLP	72868	69039	94	98.0	T68	103.4	96
94	**DSI TRANSPORTS, INC., HOUSTON, TX**	CMLP	72331	69627	92	91.5	21	91.4	22
95	**COUNTRY WIDE TRUCK SERVICE, INC., POMONA, CA**	CMGF	71077	87834	65	112.9	99	99.5	85
96	TRANSUS, INC., ATLANTA, GA	CMGF	70536	68787	95	99.5	T81	99.1	82
97	MILLER TRANSPORTERS, INC., JACKSON, MS	CMLP	70301	74048	84	101.5	89	96.9	58
98	PA.M. TRANSPORTATION SERVICES, TONTITOWN, AR	CMGF	70122	75796	80	107.4	98	97.3	67
99	DONCO CARRIERS, INC., OKLAHOMA CITY, OK	CMGF	69774	60447	NR	101.4	88	95.9	NR
100	FREYMILLER TRUCKING, INC., BAKERSFIELD, CA	CMGF	69151	58736	NR	90.9	T15	93.9	NR

	Gross Revenue	Expenses	Post Tax Net Income
TOTAL TOP 100-1989	$32,356,211	$30,983,015*	$730,865*
TOTAL TOP 100-1988	$30,540,353	$29,041,440	$937,809
TOTAL TOP 100-1987	$28,155,417	$27,157,323	$480,580

Expense and income figures don't include Schneider National, which has been exempted from reporting financial data to the ICC.

TOP 100

(all dollar amounts in thousands)

101	MIDWEST COAST TRANSPORT, INC., SIOUX FALLS, SD	CMRC	$68003	$69174	95.8	97.5
102	CON-WAY EASTERN EXPRESS,INC., PORTLAND, OR	CMGF	67734	51794	110.2	110.4
103	JONES TRANSFER COMPANY, MONROE, MI	CMGF	65748	71996	97.3	103.3
104	MONFORT TRANSPORTATION CO., GREELEY, CO	CMGF	64276	55749	98.3	92.8
105	MALONE FREIGHT LINES, INC., BIRMINGHAM, AL	CMGF	63670	52767	98.7	98.7
106	B.I. TRANSPORTATION, INC., BURLINGTON, NC	CTGF	62860	NA	94.9	NA
107	MORGAN DRIVE AWAY, INC., ELKHART, IN	CMSC	62484	59779	97.5	96.7
108	JONES MOTOR COMPANY, SPRING CITY, PA	CMGF	62154	68554	99.3	98.4
109	LYONS TRANSPORTATION LINES, INC., ERIE, PA	CMGF	61446	72537	111.1	100.8
110	ECK MILLER TRPTN CORP, ROCKPORT, IN	CMGF	61224	NA	100.2	NA
111	McGIL SPECIALIZED CARRIERS, MARIETTA, GA	CMSC	60799	57970	98.2	98.2
112	MAY TRUCKING COMPANY, PAYETTE, ID	CMGF	60774	46261	100.1	98.2
113	FORE WAY EXPRESS, INC., WAUSAU, WI	CMGF	60774	55776	98.1	98.1
114	GLOBAL VAN LINES, INC., ORANGE, CA	CMHG	60755	58605	98.1	98.4
115	PRE-FAB TRANSIT CO., FARMER CITY, IL	CMGF	59800	72181	97.5	97.0
116	PST, INC., LINDON, UT	CMSC	58637	59296	95.3	92.7
117	JANESVILLE AUTO TRANSPORT, BLOOMFIELD HILLS, MI	CTMV	57664	61834	95.6	94.3
118	WILSON TRUCKING CORP, FISHERSVILLE, VA	CMGF	57656	58807	92.8	89.8
119	WILLIS SHAW FROZEN EXPRESS, ELM SPRINGS, AR	CMRC	57088	51984	89.6	90.1
120	SOUTHWESTERN MOTOR TRANSPORT, SAN ANTONIO, TX	CMGF	56972	54723	97.6	95.1
121	CROUSE CARTAGE COMPANY, CARROLL, IA	CMGF	55125	48965	95.3	96.4
122	PIONEER TRANSPORTATION SYSTEMS, HURLOCK, MD	CMGF	55117	47874	101.1	96.3
123	PAUL ARPIN VAN LINES, EAST GREENWICH, RI	CMHG	54751	34253	98.2	96.6
124	DEATON, INC., BIRMINGHAM, AL	CMSC	54369	57365	102.2	96.3
125	JACK B. KELLEY, INC., AMARILLO, TX	CMSC	54275	45376	100.3	99.4
126	ALTERMAN TRANSPORT LINES, OPA LOCKA, FL	CMRC	54274	54508	99.2	99.7
127	TNT BESTWAY TRANSPORTATION, PHOENIX, AZ*	CMGF	54251	48508	90.0	92.6
128	WILEY SANDERS TRUCK LINES, INC., TROY, AL	CMGF	53720	48462	83.0	89.5
128	HADLEY AUTO TRANSPORT, SANTA ANA, CA	CTMV	53131	50001	94.6	91.5
130	McKENSIE TANK LINES, INC., TALLAHASSEE, FL	CMLP	51861	49349	94.[illegible]	94.1
131	TLC LINES, INC., FENTON, MO	CMGF	51615	40800	96.7	96.3
132	COMMERCIAL CARRIERS CORP, AUBURNDALE, FL*	CMGF	51512	48292	85.2	89.2
133	BE-MAC TRANSPORT CO., INC., ST. LOUIS, MO	CMGF	51224	36782	99.1	95.5
134	CENTRAL TRANSPORT, INC., HIGH POINT, NC	CMLP	51089	52465	93.6	93.2
135	ROEHL TRANSPORT, INC., MARSHFIELD, WI	CMGF	50986	44707	88.3	86.1
136	NEW ENGLAND MOTOR FREIGHT, INC., ELIZABETH, NJ	CMGF	49758	42859	96.4	96.4
137	SMALLEY TRANSPORTATION COMPANY, TAMPA, FL	CMGF	49739	45044	101.7	96.7
138	SOUTHWEST MOTOR FREIGHT, CHATTANOOGA, TN	CMGF	49043	37203	101.1	103.0
139	LYNDEN TRANSPORT, INC., KENT, WA	CMGF	48371	39376	91.1	99.6
140	HEARTLAND EXPRESS INC. OF IOWA, CORALVILLE, IA	CMGF	48300	34571	97.5	94.7
141	DAILY EXPRESS, INC., CARLISLE, PA	CMSC	48073	48117	95.6	93.3
142	ARMELLINI EXPRESS LINES, INC., PALM CITY, FL	CMSC	47725	42024	96.7	98.5
143	INTERMODAL TRPTN. SERVICE, INC., CINCINNATI, OH*	CMGF	47370	59014	98.7	99.8
144	STANDARD TRUCKING COMPANY, CHARLOTTE, NC	CMGF	47208	41744	98.1	96.2
145	WHEATON VAN LINES, INC., INDIANAPOLIS, IN	CMHG	46208	47651	97.0	94.4
146	GORDON TRUCKING, INC., SUMNER, WA	CMGF	46024	44272	98.0	95.0
147	CONTRACT TRANSPORTATION SYSTEMS, CLEVELAND, OH	CMGF	45620	46748	88.7	94.6
148	ACME TRUCK LINE, INC., HARVEY, LA	CMGF	45292	37497	97.4	95.8
149	GLENN McCLENDON TRUCKING CO., LAFAYETTE, AL	CMGF	45171	41009	93.3	101.5
150	PBX, INC., DAKOTA CITY, NE	CMRC	45100	38704	90.3	86.4

Con-Way Transportation Services statistics combine data for Con-way Central Express, Con-Way Southern Express, Con-Way Southwestern Express and Con-Way Western Express. Con-Way Eastern Express, ranked 102, is reported separately.

Montgomery Tank Lines absorbed Quality Carriers in 1989. In 1988, Montgomery had revenues of $58.2 million and an 87.0 OR. Quality Carriers' 1988 revenues were $37.6 million, with an 96.7 OR.

Whiteford Transportation's revenues declined in 1989 due to the sale of Whiteford National Lease.

Brown Transport and Malone Freight Lines have been involved in bankruptcy proceedings.

(all dollar amounts in thousands)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
151	D.M. BOWMAN, INC., WILLIAMSPORT, MD	CMSC	44841	32981	96.2	96.7
152	RYDER TEMP. CONTROLLED CARRIAGE, NASHVILLE, TN	CMRC	$44383	$57181	114.4	108.0
153	MOTOR CARGO, N. SALT LAKE CITY, UT	CMGF	43494	39328	91.2	87.9
154	KENAN TRANSPORT COMPANY, CHAPEL HILL, NC	CMLP	43363	44822	92.1	90.1
155	BULKMATIC TRANSPORT COMPANY, CHICAGO, IL	CMSC	43350	39002	95.4	93.2
156	SHAFFER TRUCKING, INC., NEW KINGSTOWN, PA	CMRC	42877	46286	95.9	92.7
157	FREDRICKSON MOTOR EXPRESS, CHARLOTTE, NC	CMGF	42749	41404	98.6	100.2
158	COLONIAL FREIGHT SYSTEMS, KNOXVILLE, TN	CMRC	42566	49794	98.3	96.3
159	THE O.K. TRUCKING COMPANY, CINCINNATI, OH	CMGF	42532	47075	98.9	97.6
160	INDUSTRIAL FREIGHT SYSTEM, SUN VALLEY, CA	CMGF	42435	37290	97.9	99.7
161	THE MICKOW CORPORATION, DES MOINES, IA	CMSC	42247	39274	98.0	98.7
162	DI SALVO TRUCKING CO., SAN FRANCISCO, CA*	CMGF	41845	42779	103.4	101.7
163	MIDDLEWEST FREIGHTWAYS, INC., ST. LOUIS, MO	CMGF	41761	41795	100.7	97.6
164	MELTON TRUCK LINES, INC., SHREVEPORT, LA	CMSC	41640	45182	101.9	99.3
165	NORTH PENN TRANSFER, INC., LANSDALE, PA	CMGF	41134	39474	103.5	98.9
166	SMITHWAY MOTOR XPRESS, INC., FORT DODGE, IA	CMGF	41078	34809	97.6	95.0
167	WARD TRUCKING CORP., ALTOONA, PA	CMGF	40675	40992	104.7	99.9
168	PLOOF TRUCK LINES, INC., JACKSONVILLE, FL	CMGF	40409	38562	84.1	84.7
169	GREAT COASTAL EXPRESS, RICHMOND, VA	CMGF	39926	36812	90.6	85.6
170	LEASEWAY MOTORCAR TRANSPORT, BIRMINGHAM, MI	CMMV	39855	48092	104.8	105.7
171	KEYSTONE LINES, ANAHEIM, CA	CMGF	39626	45965	97.2	95.8
172	GEORGE TRANSFER, INC., PARKTON, MD	CMGF	38882	40200	98.2	96.6
173	THE MANFREDI MOTOR TRANSIT CO., NEWBURY, OH	CMSC	38858	38398	96.7	93.3
174	IVORY, INC., CINCINNATI, OH*	CMGF	38809	NA	96.8	NA
175	SCHWERMAN TRUCKING CO., MILWAUKEE, WI	CMSC	38391	38084	96.9	96.9
176	SCHANNO TRANSPORTATION, WEST ST. PAUL, MN	CMRC	38259	39790	99.5	95.9
177	U.S. XPRESS, INC., CHATTANOOGA, TN	CMGF	38074	28093	89.7	NA
178	GROSS COMMON CARRIER, WISCONSIN RAPIDS, WI	CMGF	37976	36160	101.4	99.7
179	CONVOY COMPANY, BLOOMFIELD HILLS, MI	CTMV	37892	68636	102.4	99.3
180	THE MASON & DIXON LINES, INC., STERLING HTS, MI	CMGF	37472	37610	100.5	96.9
181	PACIFIC MOTOR TRANSPORT, SAN FRANCISCO, CA	CMGF	37355	38811	93.6	94.1
182	B&W CARTAGE CO., INC., TAYLOR, MI	CMGF	37351	31814	98.1	98.9
183	HAROLD IVES TRUCKING CO., STUTTGART, AR	CMGF	37235	NA	98.7	NA
184	HOLMES FREIGHT LINES, INC., OMAHA, NE	CMGF	36633	33953	93.3	91.8
185	NEW WORLD VAN LINES, INC., CHICAGO, IL	CMHG	36615	28409	95.5	96.3
186	ARROW TRUCKING CO., INC., TULSA, OK	CMGF	36551	32785	96.0	97.1
187	UMTHUN TRUCKING COMPANY, EAGLE GROVE, IA	CMGF	36532	35716	95.5	94.9
188	LENERTZ, INC., SOUTH ST. PAUL, MN	CMGF	35902	41078	101.6	98.0
189	A.J. METLER HAULING & RIGGING, KNOXVILLE, TN	CMSC	35883	35144	98.5	98.3
190	TNT REDDAWAY TRUCK LINE, INC., CLACKAMAS, OR	CMGF	35771	26664	84.9	85.1
191	ENTERPRISE TRANSPORTATION CO., HOUSTON, TX	CMLP	35324	34340	98.8	93.8
192	TRANSPORT SERVICE CO., HINSDALE, IL	CMLP	34870	31617	91.1	91.8
193	MIDWESTERN DISTRIBUTION, FORT SMITH, KS*	CMGF	34846	56305	118.4	106.3
194	REDWING CARRIERS, INC., TAMPA, FL	CMLP	34819	33431	95.2	95.0
195	SAMMONS TRUCKING, MISSOULA, MT	CMBM	34439	30026	98.4	100.1
196	BLUE RIDGE TRANSFER CO., INC., ROANOKE, VA	CMGF	33843	34527	102.5	98.7
197	KEY WAY TRANSPORT, INC., BALTIMORE, MD*	CMGF	33344	32310	98.0	95.7
198	CRESCENT TRUCK LINES, INC., UNION CITY, CA	CMGF	33304	28846	93.1	90.9
199	SCHEDULED TRUCKWAYS, INC., ROGERS, AR*	CMGF	33128	30322	100.9	99.9
200	NATIONAL VAN LINES, INC., BROADVIEW, IL	CMHG	33125	23511	100.9	99.2

Several carriers aren't in the Top 100 listing because they failed to file reports on a timely basis with the ICC or any of the states requiring financial and operating reports. Notably missing is P-I-E Nationwide/Transcon Lines, which is involved in new ownership and merger activities, and lately, the bankruptcy of Transcon Lines. Other significant missing carriers include: Roberts Express, Spartan Express and Roadway Package System, all part of the Roadway family. Additional potential Top 100 fleets are: RTC Transportation/Altruck Freight System, Carretta Trucking, Paul's Trucking Corp., Swift Transportation and Kenosha Auto Transport.

$191.4 million in 1988 to $251.6 million last year.

As a result, the Omaha-based truckload carrier surged from the 35th largest for-hire fleet in the U.S. to the number 22 ranking on CCJ's 22nd annual Top 100 list.

But impressive growth is almost "a given" at Werner. Since 1984, revenues grew at a compound annual rate of 36%, and net income increased, on average, more than 30%.

Werner's operating expenses grew a little faster than revenues last year, but its eighth-best 87.4 OR for 1989 – up from 85.3 the previous year – is nothing to sneer at.

How did Werner capture all the new freight that generated the increased revenues and filled the additional 550 trucks – expanding the fleet's size to 2,350 units – purchased in FY 1989? Nothing unique claims Jacob Wood, Werner's executive vice president. Instead, Wood attributes Werner's significant growth to "implementing a good marketing plan and providing good service."

New Penn regains best OR title

New Penn Motor Express, the regional, less-than-truckload operation headquartered in Lebanon, Pa., recaptured the best OR pennant last year. After New Penn posted the Top 100's best ORs in 1986 and 1987, Koch Service, Wichita, Kans., won the OR race in 1988. New Penn is numero uno again – with an 80.0 OR for 1989 – because its revenues were up 3.4% while its expenses increased by only 1.4%.

Consolidation continues

The four largest carriers – United Parcel Service (UPS), Yellow Freight, Consolidated Freightways and Roadway Express – continued to gain market share as a group last year. Their combined 1989 revenues totaled 49.4% of the total 100 fleets' revenues.

When CCJ published its first listing of the major revenue producers in 1968, those four fleets garnered 19.5% of the Top 100 carriers' total revenues.

And each of their 1989 revenue growth rates were significantly higher than the Top 100's 5.8% average: UPS (combination of both corporate entities), up 10.0% to $10.1 billion; Yellow Freight, up 9.9% to $2.2 billion; Consolidated Freightways, up 8.3% to $1.9 billion; Roadway Express, up 8.4% to $1.8 billion. □

Top 100 and Trends & Statistics are available in a booklet for $5. For a copy or copies of the booklet, write on company letterhead to: Reprint Editor, Commercial Carrier Journal, Chilton Way, Radnor, Pa. 19089. Send prepaid check or money order.

Where the Top 100 data come from

Transportation Technical Services, Fredericksburg, Va., compiled the Top 100 data exclusively for CCJ, based on information filed with the Interstate Commerce Commission by Class I and II carriers. Transportation Technical Services is a wholly owned affiliate of the Central Analysis Bureau of New York City.

Carriers' reporting and deadline requirements have been changed by the ICC. So some detailed information on equipment and maintenance activities is only available for less-than-truckload fleets. With the exception of household goods carriers, which weren't required to provide the information, significant financial data has been added to the Top 100 charts. Fleets designated as contract carriers aren't included since they're not required to file quarterly reports with the ICC.

INDUSTRY TRENDS AND STATISTICS

THE THRILL OF IT ALL

By **JERRY STANDLEY**, *Editor-In-Chief*, and **MATTHEW R. HOGAN**, *Market Research Editor*

The volatile truck and trailer markets performed below expectations in the moderate 1989 sales year. That trend prevailed through the first half of this year, but forecasters say it could be a wild ride from now on.

If you've ever played big stakes poker, you know what it's like to forecast commercial truck and trailer sales. It can be a thrilling, and discouraging, enterprise.

So, apparently, is the truck and trailer sales business. The outcome of 1989 sales efforts was discouraging for more than a few truck and trailer suppliers.

Fruehauf Trailers, the world's largest trailer producer, watched its 1989 sales plummet more than 26% (10,129 units) last year to 28,317. Second half sales for 1989 were off 39% (6,805 units). That's when Great Dane Trailers Inc. jumped from its perennial second place position behind Fruehauf, to became the leading U.S. trailer producer for the first time.

Great Dane sales outpaced Fruehauf in the second half of 1989 by 1,036 units (9.6%). Total 1989 sales, however, still have Fruehauf in the lead by more than 3,000 units. In 1984, Fruehauf produced almost 52,000 units, more than the other five biggest trailer producers combined, including Great Dane.

The most thrilling gain was at Monon, whose market position was lifted to number four from number 13, producing 11,382 units vs. 5,441 in 1988. For more information on what's happening in the trailer market, see the story on page 66 in CCJ's February issue: "Evolution in the Trailer Market."

While industry observers closely watched the race for number one in Class 8 sales between Seattle-based Paccar (Peterbilt and Kenworth) and Chicago-based Navistar (International), every GVW group was experiencing sales declines in 1989.

Factory sales of heavy trucks (Class 6, 7, 8 combined) were off 11.5% (28,057 units). Combined 1989 Class 6, 7, 8 factory sales of the number one domestic truck producer, International, were 52,873, off 14% from 1988. International brand trucks continue to dominate, overwhelmingly, heavy truck sales.

Factory sales of Class 8 vehicles decreased 5.4% (7,249 units), Class 7 sales were off 9.8% (7,803 units), and Class 6 sales dropped 44.3% (13,005 units).

Peterbilt and Kenworth were the only two truck builders with increasing sales in 1989. Each one had modest gains of 5%. Their combined sales increases for 1989 (1,613 units) nearly nosed out Navistar as the number one Class 8 producer. In fact, Paccar did just that through the first four months of this year, but Navistar regained the sales lead in May.

Peterbilt and Kenworth also increased market share in 1989. Kenworth replaced Ford as the sixth largest producer, moving Ford to seventh place, while Peterbilt booted Mack from number three position to number five.

Mack Trucks, Allentown, Pa., led the Class 8 sales decline with a 17.7% drop (3,571 units). Ford wasn't far behind, with a 16.4% decline (2,560 units). Other declines were insignificant or did not result in a change in market share position for 1989.

Class 3 retail sales for 1989 were dominated by Isuzu and Dodge, which held 68.4% of the market combined. Dodge's share was 36.8%; Isuzu 31.7%. Class 3 is the Japanese stronghold, where four companies—Isuzu, Mitsubishi Fuso, Nissan Diesel and Hino—hold 44.9% of the market. Led by Isuzu's 6,066 units (70% of the total Japanese share), the combined group sold 8,604 Class 3 trucks last year.

Ford owns Class 4 with 95% of that market. Class 5 belongs to GM which holds 65% of that market with GMC and Chevrolet. Japanese suppliers hold 29.5% of the Class 5 share up from 24.2% in 1988.

Forecasting thrills

One irony in the wild ride expected for much of the 1990s is the eerie similarity among truck and

Continued

trailer sales forecasts. The various projections for this year, from different forecasters, vary slightly.

Factory sales of Class 8 trucks are expected to be flat or down slightly from 1989 levels at 130,000 units or lower. Class 7 will continue to fall off as it has each year, but perhaps at an accelerating rate to the benefit of Class 6.

The new commercial drivers license is required only for drivers of Class 7 and Class 8 commercial trucks. A few manufacturers are experiencing a small but distinct shift in new vehicle demand from Class 7 to Class 6. Some are attributing it to certain types of private fleets trying to avoid the complications of employees having to obtain a CDL.

Industry sources were hard pressed to explain it any other way. For instance, none were aware of a large fleet order that might skew the number artificially. But there is one other possible explanation.

"Another possible cause," according to Kenneth J. Kremar, director of capital goods and freight transportation at Economic Consultants and Planning, New York, "is the resurgence in agricultural equipment sales, a big Class 6 market."

While 1990 truck sales figures through May show a definite shift

Text continues on page 93

STATISTICAL ANALYSIS OF THE TRUCK INDUSTRY—PRIVATE AND FOR-HIRE CARRIAGE

FLEET SIZE	TOTAL FLEETS	TOTAL VEHICLES*	# OF STRAIGHT TRUCKS OPERATED	# OF TRACTORS OPERATED	# OF TRAILERS OPERATED	# OF BUSES OPERATED	# OF OFF-HIGHWAY VEHICLES OPERATED
500 & over	3,163	4,238,486	1,304,947	557,409	1,783,151	270,512	292,467
100–499	12,728	2,367,523	700,065	445,154	827,962	167,929	226,413
50–99	13,615	893,902	277,484	166,645	279,500	71,377	98,896
25–49	20,762	695,584	250,455	117,680	187,697	58,861	80,891
10–24	28,614	447,172	198,047	70,483	101,080	28,959	48,603
TOTAL	**78,882**	**8,642,667**	**2,730,998**	**1,357,371**	**3,179,390**	**597,638**	**747,270**
VOCATION OR BUSINESS							
Common/ Contract	17,737	2,596,002	138,712	709,064	1,657,567	40,749	49,910
Lease/Rental	3,350	909,061	262,211	202,845	408,871	12,358	22,776
Food Industry	9,259	695,002	226,326	102,894	284,224	5,210	46,348
Local, State & Federal Government	7,490	1,479,529	961,012	62,555	111,867	71,674	272,421
Construction/ Mining	11,865	586,350	245,587	60,429	112,395	3,868	164,071
Manufacturing/ Processing	6,449	396,262	106,335	69,659	165,206	8,907	46,155
Petroleum	2,966	274,511	59,560	36,135	165,125	1,706	11,985
Public Utility	3,784	589,688	423,706	13,424	79,842	5,370	67,346
Retail/ Wholesale Delivery	6,884	390,423	142,483	65,989	140,148	7,201	34,602
Sanitation & Refuse	1,110	64,084	41,485	7,277	10,814	160	4,348
Schools	4,685	345,549	52,368	8,339	8,629	263,640	12,573
Buses	1,248	185,058	9,192	1,623	2,453	169,504	2,286
Other	2,055	131,148	62,021	17,138	32,249	7,291	12,449
TOTAL	**78,882**	**8,642,667**	**2,730,998**	**1,357,371**	**3,179,390**	**597,638**	**747,270**

Source: CCJ Census of the Professional Truck Fleet Market, June 1990.

*—Does not include passenger cars.

This chart segments the motor carrier industry by fleet size and vocation or business. Substantial procedural difficulty in obtaining accurate vehicle counts within four categories—large (500+) private and for-hire carriers with numerous vehicle operating locations; lease/rental fleets; government fleets; and trailers—make it virtually impossible to eliminate a small amount of duplication remaining in the number of vehicles reported to be operated in *those market segments only!* All others vehicle counts are accurate as of June, 1990. CCJ estimates absolute maximum duplication in those four categories to be no higher than 10%. Those requiring a more detailed explanation for any of the above should contact Matt Hogan, market research editor, at 215-964-4521.

TRENDS & STATISTICS

CARRIERS WITH FOR-HIRE AUTHORITY

Year	Class I (Over $5 Million)	Class II ($1-$5 Million)	Class III (Under $1 Million)	TOTAL*
1989	886	1,189	37,247	39,602
1988	889	1,179	37,182	39,609
1987	856	1,266	35,505	38,338
1986	947	1,387	33,903	36,948
1985	1,013	1,489	30,337	33,283
1984	1,088	1,554	27,370	30,481
1983	1,139	1,631	24,411	27,517
1982	1,144	2,139	22,059	25,722

Left: This data reflects post deregulation restructuring of Class 1, 2 and 3 for-hire carriers and private carriers with for-hire authority (Class 1 = revenues $5 million or more; Class 2 = between $1 million and $5 million; Class 3 = $1 million or less). The number of Class 3 carriers appears to have risen 69% from 1982 levels, but a certain amount of the increase in Class 3 is merely on paper, not in vehicles operating out on the highway, thus Class 3 numbers can be misleading. The same is true but less obvious for Class 1 and 2, which appear to have decreased in number. The Interstate Commerce Commission is considering an American Trucking Associations petition to reclassify Class 3 carriers which would help to remedy the situation.

*The carrier totals for 1989 reflect 280 Class 1 and 2 carriers operating, but exempted from filing with the Interstate Commerce Commission. The number of exempted Class 1 and 2 carriers in previous years totaled: 359 in 1988; 711 in both 1987 and 1986; 444 in 1985; 469 in 1984; 336 in 1983; 380 in 1982; 383 in 1981. *Source: Transportation Technology Services.*

SELECTED FINANCIAL DATA FROM CLASS 1 AND CLASS 2 COMMON CARRIERS

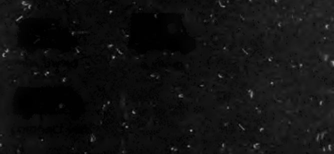
	All General Freight & Specialized Carriers 1989 (000)	1988 (000)	Percent of Change [illegible]	Percent of Revenue [illegible]
Number of [illegible]	112	112		
[illegible]	$13,066,666	$12,328,171	5.99%	100.00%
[illegible]	$1,195,252	$1,150,386	3.90%	9.15%
[illegible]	$4,958,404	$4,591,354	7.99%	37.95%
[illegible]	$1,862,682	$1,651,105	12.81%	14.26%
[illegible]	$8,016,338	$7,392,845	8.43%	61.35%
[illegible]	$1,187,213	$1,036,672	14.52%	9.09%
[illegible]	$575,312	$523,170	9.97%	4.40%
[illegible]	$434,819	$397,449	9.40%	3.33%
[illegible]	$331,305	$309,692	6.98%	2.54%
[illegible]	$199,515	$195,083	2.27%	1.53%
[illegible]	$584,693	$539,576	8.36%	4.47%
[illegible]	$998,398	$1,005,225	-0.68%	7.64%
[illegible]	$138,310	$130,334	6.12%	1.06%
[illegible]	$111,532	$104,294	6.94%	0.85%
[illegible]	$12,577,435	$11,634,340	8.11%	96.26%
[illegible]	$489,231	$693,831	-29.49%	3.74%
[illegible]	$102,343	$83,223	22.97%	0.78%
[illegible]	$134,415	$298,771	-55.01%	1.03%
[illegible]	$35,112	$106,615	-67.07%	0.27%
[illegible]	$287,585	$418,452	-31.27%	2.20%
OPERATING [illegible]	96.26	94.37		
NET PROFIT MARGIN	2.20	3.39		
Vehicle Miles Traveled	4,031,234	3,868,062	6.64%	
[illegible]	83,690	82,536	1.40%	

This chart compares totals and percentage changes in selected 1989 and 1988 financial items for 112 Class 1 & 2 Less-than-truckload common carriers. Changes in Interstate Commerce Commission (ICC) financial reporting requirements resulted in the exclusion of truckload carriers that were included in the 1988 charts. Data is compiled by Transportation Technology Services, based on carrier financial reports (Form QFR) to the ICC by Class 1 and 2 "Instruction 27" carriers (75% or greater revenues derived from general commodity freight). Statistics from United Parcel Service, contract carriers and household goods movers are excluded from this chart. To provide accurate two-year comparisons, figures from 1988 are restated on the basis of those same carriers filing 1989 reports with the ICC.

TRENDS & STATISTICS

15-YEAR FACTORY SALES OF TRUCKS BY GVW (1975 through 1989)

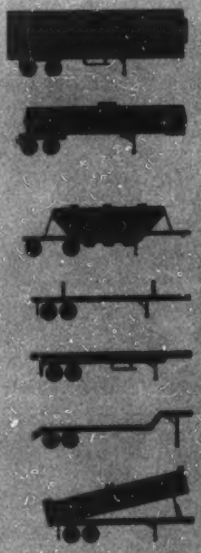
(Includes U.S. total domestic and export sales. Excludes tactical military vehicles and buses.)

	No. of Units	% of Total
CLASS 1 **6,000 lb & Less**	22,974,943	51.68%
CLASS 2 **6,001-10,000 lb**	17,328,853	38.98%
 **CLASS 3** **10,001-14,000 lb**	178,838	0.40%
CLASS 4 **14,001-16,000 lb**	12,519	0.03%
CLASS 5 **16,001-19,500 lb**	81,165	0.18%
CLASS 6 **19,501-26,000 lb**	1,033,842	2.33%
CLASS 7 **26,001-33,000 lb**	897,641	2.02%
CLASS 8 **33,001 lb & Over**	1,951,349	4.39%
TOTAL	44,459,150	100.00%

R.L. Polk estimates the total number of Class 1 - 8 trucks in use is 53,201,000. The R.L. Polk total includes imported vehicles, school buses and private fleet buses, but does not include municipal buses. The CCJ total listed above does not include buses or imports, and does not reflect a scrappage rate, which R.L. Polk estimates at 4.4% annually.

Source: Motor Vehicle Manufacturers Association, CCJ Marketing Dept.

BREAKDOWN OF NEW TRAILER SHIPMENTS (1975 through 1989)



	Number	% of Total
VANS		
Dry Freight/Closed Top	1,142,529	47.5
Dry Freight/Open Top	98,803	4.1
Insulated/Semi-Insulated	299,739	12.5
Drop Frame	74,804	3.1
Livestock	20,693	0.9
Total Vans	1,636,568	68.0
SPECIAL TYPES		
Tanks/Liquid	93,049	3.9
Dry Bulk	24,936	1.0
Pole and Logging	21,637	0.9
Platform	313,452	13.0
Low-Bed	106,575	4.4
Dump	109,162	4.5
All Others	100,994	4.2
Total Special Types	769,805	32.0
TOTAL COMPLETE TRAILERS	2,406,373	100.0
Detachable Trailers[1]	26,078	
Detachable Chassis[2]	243,595	
Dollies and Converter Gear[3]	54,686	

Source: Industry Div., Bureau of the Census, Dept. of Commerce. Compiled by CCJ Marketing Dept. -[1]Mostly container units. -[2]Most used with containers. -[3]Separate axle and fifth wheel assembly used to connect two semi-trailers for twin trailer operations.

NEW TRAILER SHIPMENTS BY TYPE

Type of Trailer	1989	1988	1987	1986	1985
VANS					
Dry Freight/Closed Top	86,421	96,390	99,054	91,571	90,489
Dry Freight/Open Top	2,986	3,254	2,776	2,948	3,005
Insulated/Semi-Insulated	26,216	24,862	26,650	21,626	24,138
Drop Frame	6,689	5,974	5,237	3,782	7,867
Livestock	1,642	1,511	1,663	2,118	1,169
Total Vans	123,954	131,991	135,380	122,045	126,668
SPECIAL TYPES					
Tanks/Liquid	5,100	5,075	4,636	4,370	5,307
Dry Bulk	953	1,065	1,358	1,253	1,520
Pole and Logging	556	710	832	1,060	1,491
Platform	17,672	17,648	14,975	13,309	16,842
Low-Bed	8,548	10,508	8,254	14,627	14,317
Dump	7,518	9,295	8,181	8,095	8,384
All Others	5,698	10,191	6,525	4,510	5,279
Total Special Types	46,045	54,492	44,762	47,224	53,140
TOTAL COMPLETE TRAILERS	**169,999**	**186,483**	**180,142**	**169,269**	**179,808**
Detachable Trailers[1]	--	5,223	438	417	252
Detachable Chassis[3]	21,042 [2]	37,729	23,014	15,046	28,876
Dollies/Converter Gear[4]	2,175	2,917	4,614	4,567	4,123
TOTAL	**23,217**	**45,869**	**28,066**	**20,030**	**33,251**

Source: Industry Div., Bureau of the Census, Dept. of Commerce. Compiled by CCJ Marketing Dept.
[1] – Mostly container units. [2] – Figure combined with detachable trailers for 1989. [3] – Primarily for use with containers. [4] – Separate axle and 5th wheel assembly for converting semi-trailer into full trailer for twin-trailer operations.

The trailer market performed as expected last year, according to the most current revised Dept. of Commerce (DOC) statistics. Total complete trailer sales decreased 8.8% (16,484 units). Dry freight van sales were down combined 10.2% (10,237 units) compared to 1988, offsetting rises in reefer, drop frame and livestock van sales (5.4%, 12% and 8.7% respectively). It was a bad year for special type trailers, except platforms, which held steady from '88 to '89. As a group, special types ended the year off 15.5% (8,447 units). The DOC expects to release more revised 1989 statistics the end of this month. Officials at Economic Consulting and Planning, Inc, of New York, who present the annual trailer market forecast at the Truck Trailer Manufacturers Assoc. annual convention, say the trailer sales outlook is positive, for at least the next several years, beginning with the second half of 1990.

DIESEL ENGINES USED IN TRUCKS

(Factory sales from U.S. plants including exports)

Make of Truck	Cat	Cummins	Detroit Diesel	International	Mack	All[2] Other	Total
Chevrolet 1989	1,882	–	9,971	–	–	–	**11,853**
1988	1,428	–	22,595	–	–	–	24,023
Ford 1989	4,831	7,382	83	63,891	–	31,030	**107,217**
1988	8,706	9,580	398	54,574	–	32,161	105,397
Freightliner ... 1989	8,389	11,969	3,348	–	–	–	**23,706**
1988	7,444	14,948	1,296	–	–	–	23,688
GMC 1989	4,436	3,588	10,292	–	–	–	**18,316**
1988	2,863	1,719	13,306	–	–	13	17,901
International .. 1989	1,530	19,969	–	39,568	–	–	**61,067**
1988	1,517	21,969	5	46,520	–	–	70,011
Jeep Corp. ... 1989	–	–	–	–	–	–	**0**
1988	–	–	–	–	–	3,917	3,917
Kenworth 1989	6,228	9,020	1,165	–	–	–	**16,413**
1988	5,552	9,286	636	–	–	–	15,474
Mack 1989	149	155	–	–	18,057	191	**18,552**
1988	251	203	–	–	22,112	102	22,668
Mercedes-Benz 1989	–	–	–			2,143	**2,143**
1988	–	–	–			3,221	3,221
Peterbilt 1989	12,141	5,768	921	–	–	–	**18,830**
1988	11,031	6,471	468	–	–	–	17,970
Volvo GM 1989	4,258	11,243	3,120		–	504	**19,125**
1988	4,967	12,059	2,529	–	–	282	19,837
Others[1] 1989	316	345	128	–	–	–	**789**
1988	296	5,020	76	–	–	–	5,392
Total 1989	**44,160**	**69,439**	**29,028**	**121,516**	**18,057**	**33,868**	**298,011**
1988	44,055	81,233	41,309	123,206	22,112	39,696	329,499

Left: Diesel engine sales dropped 9.5% in 1989, following a similar slowdown in truck sales for that year. But the market leader, International, continued to gain share, increasing to 40.7% from 37% in 1988. The nearest competitor, Cummins, has 23.3% of the market. Caterpillar's share rose slightly to 14.8% from 13.4% in 1988. On the other hand, sales of Detroit Diesels dropped 30% in 1989. That figure is somewhat artificial, because of a 10,000 unit military order for engines that were produced in 1988, and were reflected in the 1988 totals. Excluding the 1988 military engine order, sales of Detroit Diesels have slipped 43.2% (25,163 units) since 1987.

Source: Motor Vehicle Manufacturers Association. [1] – Others include Oshkosh and Marmon. [2] – All Others includes: Ford, Isuzu, Mercedes-Benz, Scania-Vabis, Volvo, Renault (Mack) and GMC/Deere. Reporting firms do not represent entire industry.

Below: This chart illustrates the six-year performance of Class 1-8 domestic factory sales of trucks. Class 8 truck sales, the industry bellweather, were down 5.4% (7,249 units) vs. 1988. Most notable is the 44% drop in Class 6 sales. However, International trucks, from Navistar, in 1988, accounted for two-thirds of a dramatic 71.6% jump in Class 6 sales (12,240 units). Most of that was in the form of a large volume order for its 97-in. BBC model. The 1989 figure for Class 6 represents a return to more normal levels. Class 7 sales continue downward, this time down 9.9% (7,803 units).

DOMESTIC TRUCK FACTORY SALES BY GVW

	1989	1988	1987	1986	1985	1984
Class 1 (6000 lb and less)						
Total Sales	2,447,962	2,496,648	2,270,566	1,964,832	1,854,901	1,610,835
Diesel Sales	107	86	1,813	4,999	9,663	15,234
% Diesel	–	–	0.1%	0.3%	0.5%	0.9%
Class 2 (6001-10,000 lb)						
Total Sales	1,057,067	1,020,515	976,803	927,462	989,633	997,626
Diesel Sales	88,636	79,535	85,125	96,443	123,882	122,995
% Diesel	8.4%	7.8%	8.7%	10.4%	12.5%	12.3%
Class 3-4 (10,001-16,000 lb)						
Total Sales	54	86	476	–	19,397	5
Diesel Sales	54	86	322	–	5,870	–
% Diesel	100%	100.0%	67.5%	–	30.3%	0.0%
Class 5 (16,001-19,500 lb)						
Total Sales	4,197	5,224	5,841	5,749	5,123	5,502
Diesel Sales	3,559	1,599	431	–	–	–
% Diesel	84.8%	30.6%	7.4%	–	–	–
Class 6 (19,501-26,000 lb)						
Total Sales	16,327	29,332	17,092	17,846	25,810	29,273
Diesel Sales	10,475	17,429	9,184	9,265	14,253	13,789
% Diesel	64.2%	59.4%	53.7%	51.9%	55.2%	47.1%
Class 7 (26,001-33,000 lb)						
Total Sales	71,340	79,143	84,341	77,597	81,122	74,445
Diesel Sales	55,568	56,574	56,719	47,694	50,492	43,412
% Diesel	71.5%	71.5%	67.2%	61.5%	62.2%	58.3%
Class 8 (33,001 lb & Over)						
Total Sales	127,880	135,129	121,425	103,216	120,941	138,584
Diesel Sales	127,826	134,981	121,192	102,671	120,311	137,692
% Diesel	99.9%	99.9%	99.8%	99.5%	99.5%	99.4%

TRENDS & STATISTICS

TRUCK FACTORY SALES

(U.S. domestic only; excluding tactical military vehicles)

GVW	Class 1 Up to 6,000 lb		Class 2 6,001 - 10,000 lb		Class 3 10,001 - 14,000 lb		Class 4 14,001 - 16,000 lb		Class 5 16,001 - 19,500 lb		Class 6 19,501 - 26,000 lb	
Sales Year	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
Chevrolet	845.085	860.869	306.861	340.524	–	–	–	–	84	203	2.063	2.178
GMC	208.058	201.005	97.904	102.454	–	–	–	–	4.113	5.021	2.267	7.560
Oldsmobile¹	4.270	–	–	–	–	–	–	–	–	–	–	–
Pontiac¹	6.765	–	–	–	–	–	–	–	–	–	–	–
Chrysler	309.482	313.388	51.753	31.895	–	–	–	–	–	–	–	–
Ford	758.431	826.121	590.647	532.026	–	–	–	–	–	–	4.566	5.367
Freightliner	–	–	–	–	–	–	–	–	–	–	–	–
International	–	–	–	–	–	–	54	86	–	–	6.682	13.157
Jeep	192.814	199.346	9.902	13.616	–	–	–	–	–	–	–	–
Kenworth	–	–	–	–	–	–	–	–	–	–	–	–
Mack	–	–	–	–	–	–	–		–	–	–	–
Mercedes-Benz	–	–	–	–	–	–	–		–	–	749	1.070
Peterbilt	–	–	–	–	–	–	–	–	–	–	–	–
Volvo GM	–	–	–	–	–	–	–	–	–	–	–	–
Others	123.057²	95.919²	–	–	–	–	–	–	–	–	–	–
TOTAL	2,447.962	2.496.648	1.057.067	1.020.515	–	–	54	86	4.197	5.224	16.327	29.332

TRUCK RETAIL SALES

(Data includes built-up and CKD units assembled in the U.S.)

GVW	Class 1 Up to 6,000 lb		Class 2 6,001 - 10,000 lb		Class 3 10,001 - 14,000 lb		Class 4 14,001 - 16,000 lb		Class 5 16,001 - 19,500 lb		Class 6 19,501 - 26,000 lb	
Sales Year	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988
Chrysler	1,812	–	–	–	–	–	–	–	–	–	–	–
Dodge	417,319	465,550	124,064	101,683	7,046	3,803	–	–	–	–	–	–
Plymouth	184,943	192,273	–	–	–	–	–	–	–	–	–	–
Jeep	238,455	238,751	10,715	14,703	–	–	–	–	–	–	–	–
Total Chrysler	**842,529**	**896,574**	**134,779**	**116,386**	**7,046**	**3,803**	–	–	–	–	–	–
Ford	716,141	770,909	660,205	671,480	–	–	25,648	19,698	–	–	9,526	10,833
Freightliner	–	–	–	–	–	–	–	–	–	–	–	–
Chevrolet	928,050	921,698	381,089	413,942	698	767	–	–	234	249	7,424	8,093
GMC	231,079	220,130	121,318	131,293	1,391	1,576	–	–	4,458	5,347	5,371	11,366
Oldsmobile	2,122	–	–	–	–	–	–	–	–	–	–	–
Pontiac	3,226	–	–	–	–	–	–	–	–	–	–	–
Total GM	**1,164,477**	**1,141,828**	**502,407**	**545,235**	**2,089**	**2,343**	–	–	**4,692**	**5,596**	**12,795**	**19,459**
Hino	–	–	–	–	262	6	–	–	465	603	503	482
Isuzu	–	–	–	–	6,066	4,785	653	505	230	137	743	774
[illegible]	–	–	–	–	1,422	1,598	504	705	256	359	175	154
Kenworth	–	–	–	–	–	–	–	–	–	–	–	–
Mack	–	–	–	–	–	–	–	–	–	–	1,819	2,078
Mercedes-Benz	–	–	–	–	–	–	–	–	–	–	796	1,124
Mitsubishi Fuso	–	–	–	–	1,694	1,624	–	–	686	530	317	234
International	–	–	–	–	–	–	226	273	152	304	11,795	18,142
Nissan	130,978	116,717	–	–	–	–	–	–	–	–	–	–
Nissan Diesel	–	–	–	–	582	69	–	–	762	739	435	287
Peterbilt	–	–	–	–	–	–	–	–	–	–	–	–
Toyota	–	–	–	–	–	–	–	–	–	–	–	–
[illegible]	369	–	–	–	–	–	–	–	–	–	–	–
Volvo GM Heavy	–	–	–	–	–	–	–	–	–	–	–	–
Western Star	–	–	–	–	–	–	–	–	–	–	–	–
Other Domestic	–	–	–	–	–	–	–	–	–	–	224	32
TOTAL	2,854,494	2,926,028	1,297,391	1,333,101	19,161	14,228	27,031	21,181	7,243	8,268	39,128	53,599

Source: MVMA. These data are 1988 and '89 factory sales from U.S. plants only and do not include sales of vehicles resulting from joint venture agreements between foreign and domestic suppliers. MVMA reporting firms do not represent entire industry. Volvo GM does not report separate factory sales figures for Class 8 Volvo, WhiteGMC and Autocar trucks (combined as 17,030 units above). "Others" include Nissan, Marmon and Oshkosh. A more complete picture of U.S. market truck sales is reflected in the Retail sales chart.

-[1] 1989 Minivans classified as trucks. -[2] Nissan Production figures.

Class 7 26,001 - 33,000 lb		Class 8 33,001 lb +		Grand Total		GVW
1989	1988	1989	1988	1989	1988	Sales Year
7,721	8,423	–	243	1,161,814	1,212,440	Chevrolet
11,817	14,788	98	647	324,257	331,475	GMC
–	-	–	–	4,270	–	Oldsmobile
–	–	–	–	6,765	–	Pontiac
–	–	–	–	361,235	345,283	Chrysler
28,699	31,181	12,963	15,523	1,395,306	1,410,218	Ford
–	–	22,914	22,970	22,914	22,970	Freightliner
21,922	23,075	24,269	25,307	52,927	61,625	International
–	–	–	–	202,716	212,962	Jeep
–	–	15,433	14,663	15,433	14,663	Kenworth
–	–	16,642	20,213	16,642	20,213	Mack
1,181	1,676	–	–	1,930	2,746	Mercedes-Benz
–	–	17,776	16,933	17,776	16,933	Peterbilt
–	–	17,030	17,877	17,030	17,877	Volvo GM
–	–	755	753	123,812	96,672	Others
71,340	79,143	127,880	135,129	3,724,827	3,766,077	TOTAL

Class 7 26,001 - 33,000 lb		Class 8 33,001 lb +		Grand Total		GVW
1989	1988	1989	1988	1989	1988	Sales Year
0	0	0	0	1,612	0	Chrysler
0	0	0	0	548,429	571,036	Dodge
0	0	0	0	184,943	192,273	Plymouth
0	0	0	0	249,170	253,454	Jeep
0	**0**	**0**	**0**	**984,354**	**1,016,763**	Total Chrysler
32,531	35,437	13,995	14,858	1,458,046	1,523,215	Ford
0	0	23,381	24,164	23,381	24,164	Freightliner
8,272	9,469	0	273	1,325,767	1,354,491	Chevrolet
12,780	15,372	0	1,090	376,397	386,174	GMC
0	0	0	0	2,122	0	Oldsmobile
0	0	0	0	3,226	0	Pontiac
21,052	**24,841**	**0**	**1,363**	**1,707,512**	**1,740,665**	Total GM
911	1,032	0	0	2,141	2,123	Hino
669	486	0	0	8,361	6,687	Isuzu
0	0	0	0	2,357	2,816	Iveco
388	504	17,806	16,700	18,194	17,204	Kenworth
2,417	2,807	19,035	21,846	23,271	26,731	Mack
1,241	1,882	0	0	2,037	3,006	Mercedes-Benz
611	613	0	0	3,308	3,001	Mitsubishi Fuso
31,341	32,382	34,671	33,808	78,185	84,909	International
0	0	0	0	130,978	116,717	Nissan
611	948	0	0	2,390	2,043	Nissan Diesel
546	547	16,557	16,154	17,103	16,701	Peterbilt
0	0	116	163	116	163	Scania
0	0	0	0	369	0	Suzuki
1,012	1,452	17,340	17,089	18,352	18,541	Volvo GM Heavy
0	0	1,419	1,440	1,419	1,440	Western Star
116	111	748	776	1,088	919	Other Domestic
93,446	103,042	145,068	148,361	4,482,962	4,607,808	TOTAL

THE THRILL OF IT ALL

Continued from page 72

of several thousand units to Class 6, most agree it's too soon to say that this shift in GVW class will be significant, or sustained, for whatever reason.

If that scenario plays out, it may offer some relief for truck dealers, the most discouraged segment of the industry. The American Truck Dealers division of the National Automobile Dealers Association, McLean, Va., expects 10% or more of their members to fold this year. A published report on an ATD survey shows that 36.7% lost money in new vehicle sales, 63.3% ran in the red on used vehicles and 33.7% lost money in service sales.

And they find little that is thrilling in the wild ride predicted for much of the rest of the decade, according to George Rafferty, a Chicago Kenworth dealer and ATD's current chairman.

"A big market doesn't necessarily bode well for dealers. The problem is trying to convince the vehicle OEMs not to sell directly to the customer. And I'm not optimistic that anything's going to change in that area."

Factory vs. retail sales

Now for the real story...almost.

Factory sales figures don't tell the story of truck sales in the U.S. marketplace. For instance, factory sales data do not reflect 25,648 Ford Class 4 trucks manufactured in Canada and imported for sale here.

That's one of the reasons we added the new retail sales chart to this special section. Retail sales figures published by the Motor Vehicle Manufacturers Association provide a truer picture of truck sales in America than factory sales. For instance, the data show 27,031 vehicles sold as Class 4 (Ford and others) vs. 54 in factory sales data) because retail sales figures include imports from Canada and other data not reflected in the factory sales figures.

Retail sales figures have only recently been published by the Motor Vehicle Manufacturers Association. They provide a much more complete picture than factory sales of truck market activity in the U.S., but not the entire picture. For instance, retail sales data do not include U.S. sales for Toyota, Subaru, Mazda and certain other vehicles, like Isuzu's Trooper and mini-pickup models. Those missing vehicles account for many thousands of domestic small truck sales, mostly in GVW Class 1 and 2. A large number of those are for private use, however, not commercial. □

By **NANCY O'BRIEN**
Contributing Editor

Are you making as much as your peers? To compare their salaries with yours, check the compensation figures noted below. Based on a survey of 570 motor carriers, the data for 17 managerial and supervisory job titles is broken down by fleet size and type.

WHERE THE MONEY IS!

$hooting for big bucks in the motor carrier industry? Then set your sights on being president of a for-hire carrier with 500 or more vehicles.

Presidents of major common carriers make more money than persons with titles like owner and partners. That's because owners and partners usually run smaller fleets.

Those were just two of the conclusions reached after analyzing the 250-page, data-packed, management compensation and benefits study recently conducted by Abbott, Langer & Associates of Crete, Ill. Sponsored by *Commercial Carrier Journal* and directed by Steven Langer Ph.D., the research was based on a survey of 570 randomly-selected operations that weren't limited to freight-hauling motor carriers.

Also included in the independent study were truck and bus fleets operated by: utility companies, school districts, transit authorities, the military forces, construction outfits, municipalities and other government agencies. Research results are broken down by size, revenue and type of fleet, and the region, state and/or metropolitan area in which the respondents operate.

Compensation figures quoted in the study reflect salary plus cash bonuses and profit sharing for 17 managerial and supervisory job titles. They are median averages, not mean averages. Medians often are more accurate than averages because just one unusually low or high number can easily throw the mean average out of whack.

Thus the $76,976 median average compensation figure for trucking company presidents noted in the survey reflects the income point at which 50% of the survey's presidential respondents earn more and 50% earn less.

Other median compensation figures noted by job title in the study are: owner/senior partner, $65,000; executive vice president, $56,000; vice president of transportation, $55,000; vice president-finance/finance director, $49,791; sales/marketing manager, $48,000; vice president-maintenance/maintenance director, $46,000; maintenance superintendent, $43,000; equipment manager, $39,600; fleet manager, $36,000; operations manager, $35,432; vice president-safety/safety director, $35,183; maintenance foreman, $32,891; equipment specialist, $30,500; maintenance manager, $30,000; fleet superintendent, $30,000.

Don't forget that as managers work their way up the corporate ladder, their perks increase, too. And those goodies aren't reported as income to the IRS.

Impacts of type, size, locale

Before you start updating your resume, you should know that being president of a private or for-hire fleet doesn't guarantee that you've entered the golden circle of financial heavy hitters. Presidential salaries vary widely, ranging in the study from $184,000 to $26,000. And fleet superintendents' salaries reported in the study varied between $50,000 and $17,000.

Compensation variations like those usually are based on the type and size/revenue of fleet, plus operating locale.

An analysis of compensation data for 17 key trucking industry job titles, also determined that:

- For-hire carriers pay their employees 7% more, on average, than private fleets.

For some job titles, however, private carriers pay more. For example, the median salary of a fleet maintenance foreman working for a for-hire carrier is $25,000. But his counterpart at a private fleet earns $33,672.

- Fleets with 500 or more vehicles pay employees 23% more than fleets with less than 100 vehicles.

But that compensation difference doesn't hold true for all positions. For instance, a fleet maintenance foreman who works for a company with 500 or more vehicles earns 54% more – $34,800 vs. $22,530 – than his counterpart at a company with fewer than 100 vehicles. On the other hand, an equipment manager earns 7% *less* – $39,600 vs. $37,000 – if he works for a company with 500 or more vehicles.

- The Pacific region provides the highest trucking management salaries in the nation. West Coast salaries are 30% higher than the Midwest, the low end of the geographic pay scale.
- Most of the fleets surveyed have pension plans. Employers' pension fund contributions average between 6% and 7.9% of employee salaries. And employees'

MANAGEMENT $ALARY SURVEY

retirement income equals between 51% and 74% of their highest average earnings.

More than half of the for-hire carriers pay all of the pension premium. But over 50% of private fleets pay only part of the premium.

- Bonuses and profit sharing are offered by less than half the companies surveyed.
- More than half of the respondents pay 100% of employees' premium for major medical coverage—65% of for-hire carriers and 57% of private fleets. But less than half—39% of for-hire carriers and 30% of private fleets—cover 100% of dependents' health insurance. And 20% of the carriers responded that they don't pay for any dependent coverage.

Job title definitions

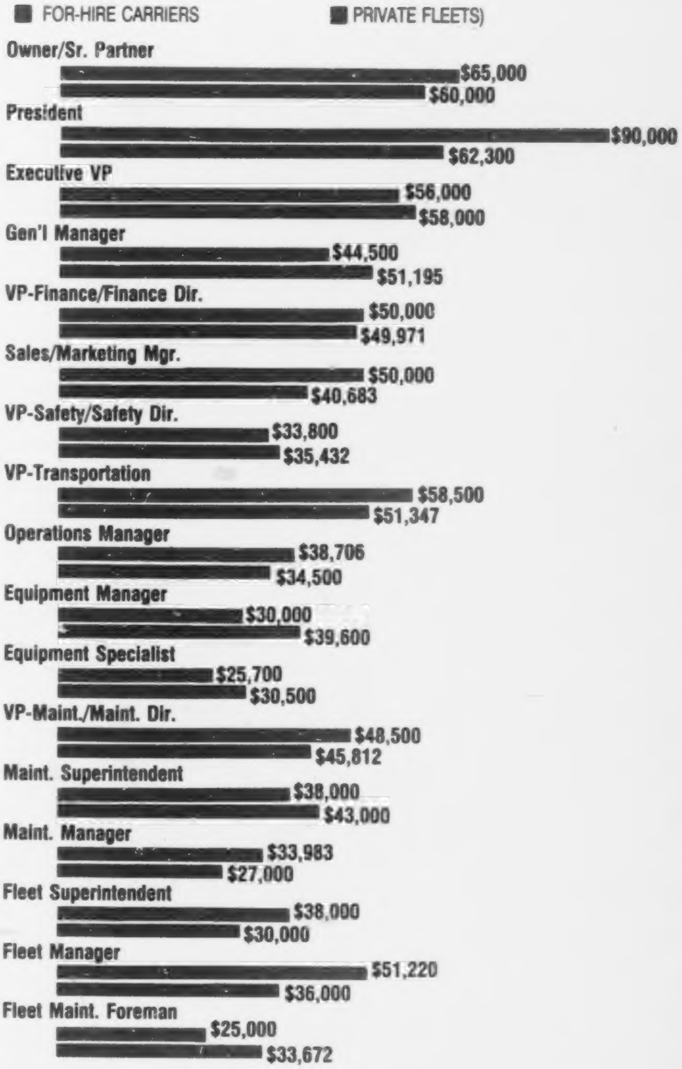
The bar charts show the breakdown of trucking industry managers' median compensation levels by job title. The titles and their definitions, for purposes of this survey, are:

1. Owner/Senior Partner: Holds the sole or largest financial interest in the organization. Directs the organization's day-to-day activities. In smaller fleets, may act as president, general manager, operations manager, maintenance manager and/or chief financial officer.

2. President: Has little or no financial interest in the organization. Functions as the highest manager of an organization in which the owner or partners don't play a managerial role. Directs all of the organization's day-to-day

Continued

INCOME BY TYPE FLEET



Before you start updating your resume, you should know that being president of a fleet doesn't guarantee that you've entered the golden circle of financial heavy hitters. Presidential salaries vary widely, ranging in the study from $184,000 to $26,000.

activities. Represents the organization to the public.

3. Executive Vice President: Responsible for the implementation of policies and procedures set by the Owner/Senior Partner or President. Serves as Acting President in the absence thereof. Usually directs the day-to-day activities of one or more specific areas of the organization.

4. General Manager: Responsible for the implementation of policies and procedures set by the Owner/Senior Partner or President. Does not serve as Acting President in the President's absence. Usually directs day-to-day activities of all or most of the organization.

5. Vice President-Finance or Finance Director: Responsible for developing financial policies and procedures and directing their implementation. Supervises the financial and accounting activities of the organization.

6. Sales/Marketing Manager: Responsible for the supervision of the sales staff and planning and direction of all sales, marketing and related activities. Coordinates and supervises all activities dealing with market research, product development, sales promotion, advertising and market development and/or expansion.

7. Vice President-Safety or Safety Director: Develops, directs and oversees compliance with federal, state and local safety regulations in terms of employee and vehicle safety.

8. Vice President-Transportation: Oversees all aspects of vehicle operations for the organization, including purchasing, budgeting, maintenance, traffic and labor relations.

9. Operations Manager: Responsible for the daily operation of the company vehicles. Manages traffic of vehicles and freight. May manage one or more terminals.

10. Equipment Manager: Responsible for the company's vehicles, including purchasing, budgeting, maintenance and day-to-day operation.

11. Equipment Specialist: Under the direction of the Equipment Manager, is responsible for the day-to-day operation of company vehicles.

12. Vice President-Maintenance or Director of Maintenance: Oversees all maintenance on company vehicles. Duties may include purchasing of parts, components, supplies and vehicles. Duties may include labor relations and the training of mechanics. Responsible for other fleet activities such as operations, safety, finance/accounting or marketing/sales.

13. Maintenance Superintendent: Under the direction of the Vice President-Maintenance or Director of Maintenance, is responsible for the maintenance of all company vehicles. Duties may include purchasing of parts, components, supplies and vehicles. Duties may include labor relations and the training of mechanics. Typically directs the activities of 24 or more maintenance employees through two or more levels of subordinate managers/supervisors/foremen. Responsibilities don't include other fleet activities such as operations, safety, finance/accounting or marketing/sales.

14. Maintenance Manager: Under the direction of the Vice President-Maintenance or Director of Maintenance, is responsible for the maintenance of all company vehicles. Duties may include purchasing of parts, components, supplies and vehicles. Duties may include labor relations and training of mechanics. Typically directs the activities of 12 to 48 maintenance employees through one level of subordinate managers/supervisors/foremen. Responsibilities don't include other fleet activities such as operations, safety, finance/accounting or marketing/sales.

15. Fleet Superintendent: Under the direction of the Vice President-Maintenance or Director of Maintenance or the Operations Manager, is responsible for day-to-day maintenance of company vehicles. Duties may include purchasing of parts, components, supplies and vehicles. Duties may include labor relations and the training of mechanics. Typically directs the activities of 24 or more maintenance employees through two or more levels of subordinate

How to buy a copy of the complete study

Copies of the 250-page statistical analysis of trucking industry management compensation and benefits are available for $295 each. They can be purchased from Abbott, Langer & Associates, 548 First St., Crete, Ill. 60417. Phone: 708-672-4200.

MANAGEMENT $ALARY SURVEY

managers/supervisors/foremen. Responsible for other fleet activities such as operations, safety, finance/accounting or marketing/sales.

16. Fleet Manager: Under the direction of the Vice President-Maintenance or Director of Maintenance, is responsible for day-to-day maintenance of company vehicles. Duties may include purchasing of parts, components, supplies and vehicles. Duties may include labor relations and the training of mechanics. Typically directs the activities of 12 to 48 maintenance employees through one level of subordinate managers/supervisors/foremen. Responsible for other fleet activities such as operations, safety, finance/accounting or marketing/sales.

17. Fleet Maintenance Foreman: Under the direction of the Vice President-Maintenance or Director of Maintenance, the Fleet Manager or the Maintenance Manager. Is responsible for day-to-day maintenance of company vehicles. Duties may include purchasing of parts, components, supplies and vehicles. Duties may include labor relations and the training of mechanics. Typically directs the activities of four to twelve maintenance employees. Has no subordinate levels of supervisors, except, possibly, one or more Maintenance Mechanic Leadmen. □

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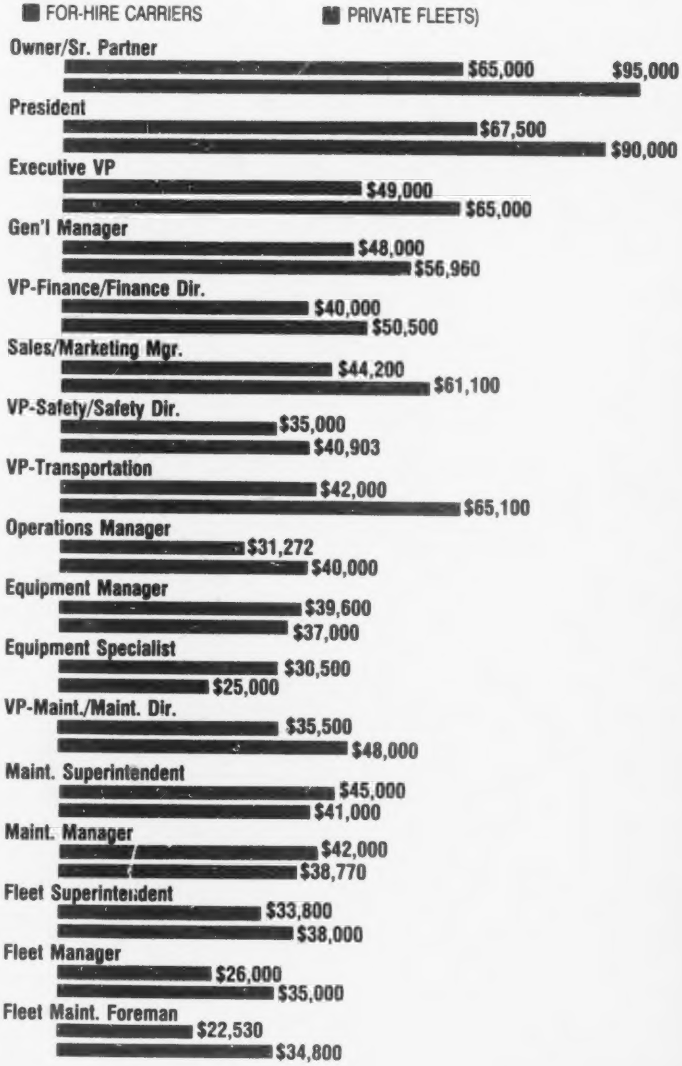
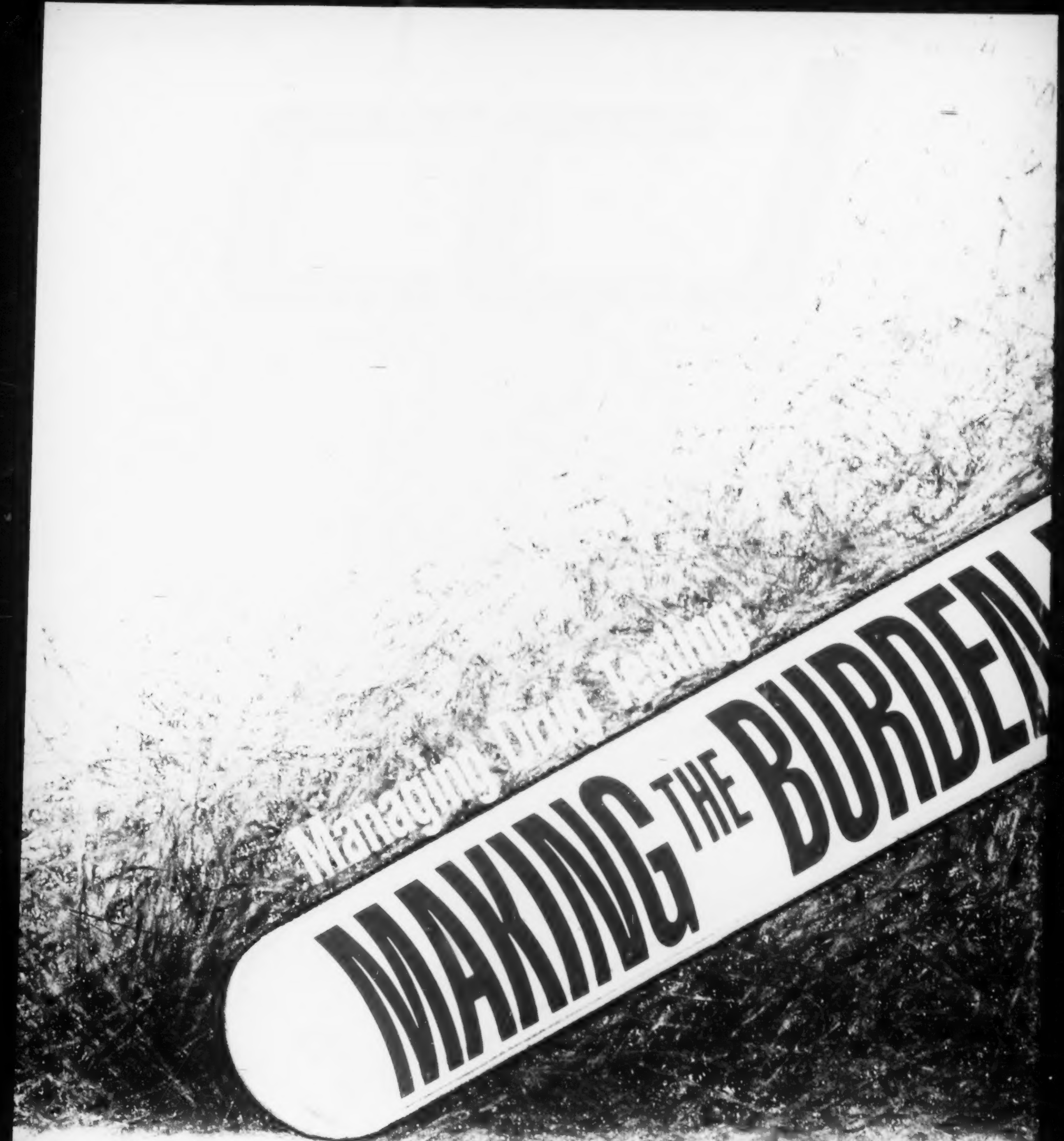
INCOME BY FLEET SIZE





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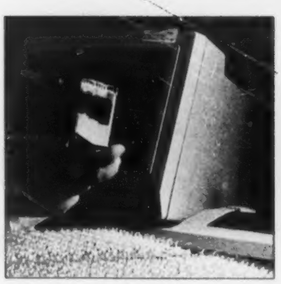

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IN THE NEXT ISSUE

We hate to keep you in suspense, but CCJ won't publish a two-part story on suspensions until September. With that issue, CCJ will kick off a series on savvy spec'ing.

"Part I: Suspension Basics" is a review of what's expected of a suspension system, and which types are best suited for various applications. Also included is a buyer's guide.

The second part deals with the air vs. mechanical suspension debate. Fleetmen and suppliers will explain why they think one suspension system is better than the other.

The September issue also will include an update of federal insurance requirements for underground fuel storage tanks, plus sources of insurance coverage. □

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a national maximum weight limit on ocean containers is designed to "limit efficiency [of ocean shippers], increase carrier revenues and increase costs of U.S. exporters."

A study by shippers, ocean carriers, motor carriers, ports and other interests under the umbrella of the National Industry Transportation League is under way. It covers increased policy enforcement through random inspections, weight inspection programs at ports, stringent penalties for mislabeling weights, and permit freedoms for truckers carrying overweight boxes short distances. □

President Bush vetoes parental leave bill

President George Bush's veto of the parental leave bill has freed companies from the expense of providing health benefits and job security to employees.

The measure would have required firms with at least 50 employees at any one site to offer up to 12 weeks of unpaid leave to workers caring for newborns, newly adopted children or ill family members, including themselves. During the leave, workers would have received health benefits and would have been guaranteed a job on their return.

The bill was strongly supported by organized labor and some women's groups.

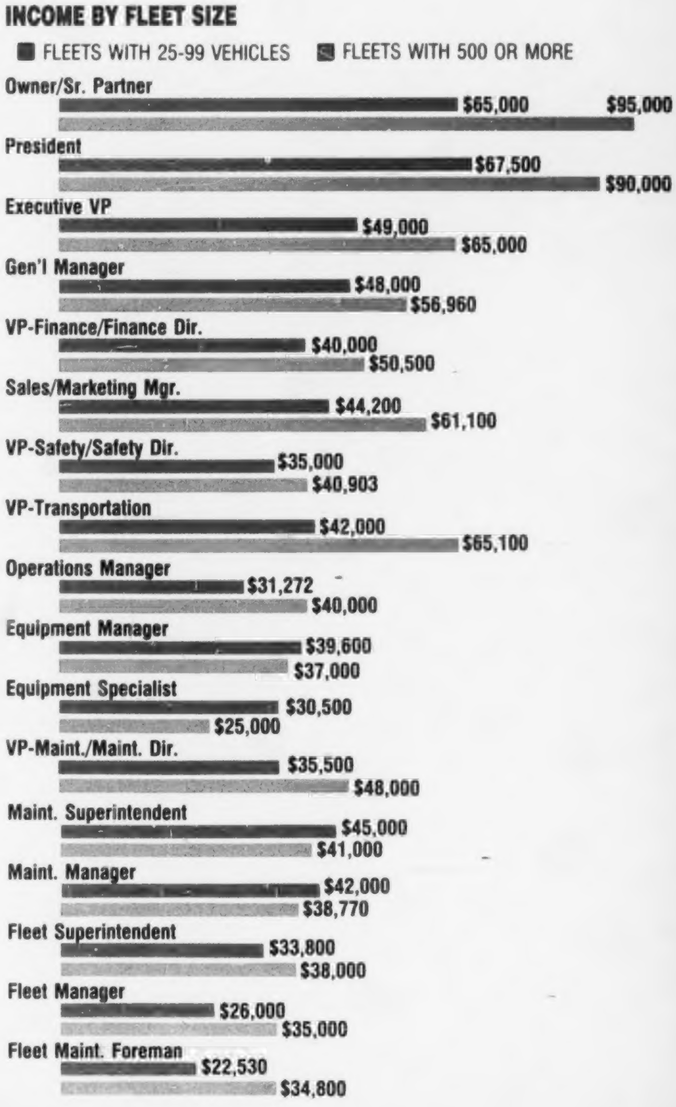
In his veto message, Bush said he favors help for working parents, but policies to encourage help for families "should be crafted at the workplace by employers and employees, not through government..." Several states have comparable parental leave legislation.

Bush also said that U.S. firms, facing fierce competition, must have "flexibility" to be competitive and meet the needs of employees at the same time.

Business firms, in urging the veto, said they feared that passage of the family leave bill would open the door for other laws requiring employee benefits. □

Salary chart correction

This Income By Fleet Size bar chart was part of the management salary survey story published in the July issue of CCJ. Due to a print production glitch, the chart description failed to note that the top bar for each job category reflects salaries for fleets with 25 to 99 vehicles and the bottom bars represent salaries for carriers with 500 or more units.



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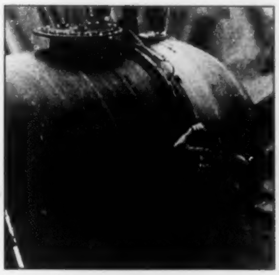
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IN THE NEXT ISSUE

Information on thousands of products and services needed by fleets will be provided in CCJ's Annual Buyers' Guide. Segmented into more than 500 categories, the Buyers' Guide will include over 70 pages of where-to-buy-it data, including names, addresses and phone numbers

Details on the 1991 Makes and Models also will be offered. That package will include specs, ratios and weights for light, medium and heavy-duty commercial vehicles.

The Components section will note valuable information on transmissions, axles, gasoline and diesel engines, and 5th wheels.

The October edition also will have a directory of manufacturers' technical literature and catalogs. □

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CVSA: disqualify violators of "out-of-service" orders

The Commercial Vehicle Safety Alliance (CVSA) wants commercial driver's license standards to include drivers who violate an "out-of-service" order as a disqualifying offense. To accomplish that, the CVSA has filed a petition with the Federal Highway Administration (FHWA) to issue a Notice of Proposed Rulemaking with a minimum comment period to amend the standards.

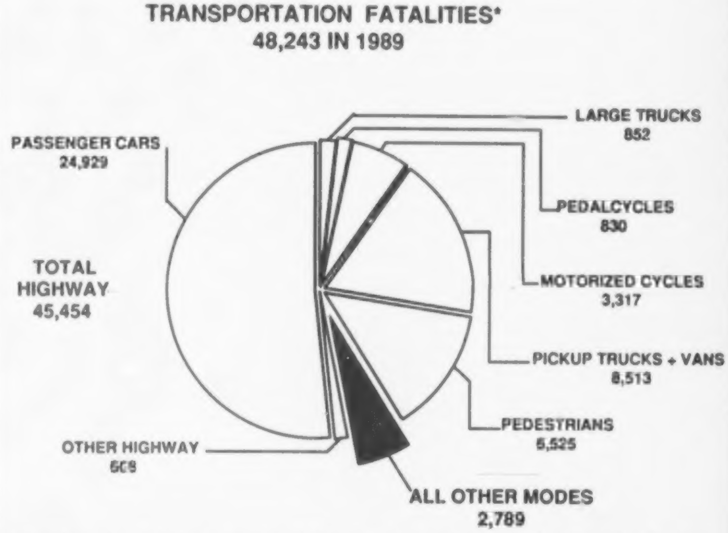
CVSA is a private association of state and provincial officials responsible for motor carrier safety enforcement activities in the U.S. and Canada.

The petition was a reaction to a report completed by the Congressional Research Service which identified the lack of roadside reinspection requirements as a deficiency.

Entitled "MCSAP: Options Intended To Improve A Generally Successful Federal/State Partnership Promoting Truck and Bus Safety," the report indicated that the location (e.g., scale house, roadside) of the out-of-service vehicle may have an effect on whether the driver complies with the out-of-service action. In addition, the seriousness and types of violations (e.g., brakes, tires, hours of service) appears to be a significant indicator of potential non-compliance.

CVSA has developed compliance procedures for the implementation of defect repair verification programs to address these problems. The procedures include on-site verifications, selective covert operations and comparison of inspection reports to maintenance records during audits.

"The enforcement program needs to be complemented by adequate sanctions," said Paul Henry, president of CVSA. "This can best be accomplished by including these violations as a disqualifying offense..." □



The chart above shows estimates of 1989 transportation fatalities by all modes. Preliminary estimates by the National Transportation Safety Board (NTSB) have determined that fatalities resulting from transportation accidents in the U.S. dropped more than 3%—from 47,087 to 45,454—last year. Highway fatalities account for approximately 95% of U.S. transportation deaths, reports the NTSB. Large trucks were involved in 852 of the transportation deaths.

Court okays FAA drug tests

Approval of random drug testing in the aviation industry improves the chances of a favorable ruling for trucking, Federal Highway Administration officials recently told CCJ.

A three-judge panel on the Federal Court of Appeals in California unanimously upheld a Federal Aviation Administration (FAA) right to order random drug tests for safety-sensitive workers in the airline industry.

The rule affects pilots, flight attendants, air traffic controllers and maintenance workers.

The court ruled that the government's interest in airline safety outweighed the intrusion into employees' privacy.

The trucking industry is awaiting results of a similar challenge to random and post-accident drug testing filed in the Ninth U.S. District Court in California by the Owner Operators and Independent Drivers Association, based in Oak Grove, Mo. □

CTA: Alternative fuels not feasible or cost-effective yet

Fuel reformulation, tough diesel emission standards, programs to cut truck miles traveled and improved vehicle productivity—not alternative fuels—are the most feasible ways to cut truck-caused smog, a California Trucking Association (CTA) white paper concludes.

But alternative fuels may someday prove feasible for some trucking segments, says the report entitled "Alternative Trucking Fuels."

"Diesel engine manufacturers, fuel suppliers and emission control technicians are working on both heavy-duty alternative-fueled engines and advanced diesels," the white paper reports.

The report is in response to political pressure to replace diesel fuel. CTA executive vice president Thomas C. Schumacher noted that the California Air Resources Board is approaching a September 1991 deadline to make rules for heavy-duty alternative-fueled vehicles. □